UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	169.1833
First Named Inventor or Application Identifier	
WILLIAM SIMPSON-YOUNG, ET AL.	
Express Mail Label No.	

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

1. [X] Fee Transmittal Form
(Submit an original, and a duplicate for fee processing)

2. [X] Specification — *Total Pages* 48

3. [X] Drawing(s) *(35 USC 113)* — *Total Sheets* 11

4. [X] Oath or Declaration — *Total Pages* 2

   a. [ ] Newly executed (original or copy)
   b. [X] Unexecuted for information purposes
   c. [ ] Copy from a prior application (37 CFR 1.63(d))
   (for continuation/divisional with Box 17 completed)
   [Note Box 5 below]

   i. [ ] DELETION OF INVENTOR(S)
   Signed Statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).

5. [ ] Incorporation By Reference *(useable if Box 4c is checked)*
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4c, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.

6. [ ] Microfiche Computer Program *(Appendix)*

7. Nucleotide and/or Amino Acid Sequence Submission
(if applicable, all necessary)
   a. [ ] Computer Readable Copy
   b. [ ] Paper Copy (identical to computer copy)
   c [ ] Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

8. [ ] Assignment Papers (cover sheet & document(s))

9. [ ] 37 CFR 3.73(b) Statement *(when there is an assignee)* [ ] Power of Attorney

10. [ ] English Translation Document *(if applicable)*

11. [ ] Information Disclosure Statement (IDS)/PTO-1449 [ ] Copies of IDS Citations

12. [ ] Preliminary Amendment

13. [X] Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)

14. [ ] Small Entity [ ] Statement filed in prior application
Statement(s) Status still proper and desired

15. [ ] Certified Copy of Priority Document(s)
(if foreign priority is claimed)

16. [ ] Other: _____

17. If a CONTINUING APPLICATION, *check appropriate box and supply the requisite information:*
[ ] Continuation [ ] Divisional [ ] Continuation-in-part (CIP) of prior application No. _____

18. CORRESPONDENCE ADDRESS

[X] Customer Number or Bar Code Label — 05514 (Insert Customer No. or Attach bar code label here) or [ ] Correspondence address below

NAME					
Address					
City		State		Zip Code	
Country		Telephone		Fax	

CLAIMS	(1) FOR	(2) NUMBER FILED	(3) NUMBER EXTRA	(4) RATE	(5) CALCULATIONS
	TOTAL CLAIMS (37 CFR 1.16(c))	46-20 =	26	X $ 18.00 =	$ 468.00
	INDEPENDENT CLAIMS (37 cfr 1.16(b))	9-3 =	6	X $ 78.00 =	$ 468.00
	MULTIPLE DEPENDENT CLAIMS (if applicable) (37 CFR 1.16(d))			$260.00 =	$ 0.00
				BASIC FEE (37 CFR 1.16(a))	$ 690.00
			Total of above Calculations =		$ 1626.00
	Reduction by 50% for filing by small entity (Note 37 CFR 1.9, 1.27, 1.28).				
				TOTAL =	$ 1626.00

19. Small entity status
    - a. ☐ A Small entity statement is enclosed
    - b. ☐ A small entity statement was filed in the prior nonprovisional application and such status is still proper and desired.
    - c. ☐ Is no longer claimed.

20. ☒ A check in the amount of $ 1626.00 to cover the filing fee is enclosed.

21. ☐ A check in the amount of $ _____ to cover the recordal fee is enclosed.

22. The Commissioner is hereby authorized to credit overpayments or charge the following fees to Deposit Account No. 06-1205:
    - a. ☒ Fees required under 37 CFR 1.16.
    - b. ☐ Fees required under 37 CFR 1.17.
    - c. ☐ Fees required under 37 CFR 1.18.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED	
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DATE	September 20, 2000

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APPLICATION INFORMATION

Title Line One: SMART CARD SYSTEMS AND ELECTRONIC TICKETING
Title Line Two: METHODS

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Formal Drawings?: Yes
Application Type: Utility
Docket Number: 169.1833
Secrecy Order in Parent Appl.?: No

REPRESENTATIVE INFORMATION

Representative Customer Number: 5514

PRIOR FOREIGN APPLICATIONS

Foreign Application One: PQ7363
Filing Date: 05-08-2000
Country: Australia
Priority Claimed: Yes
Foreign Application Two: PQ3144
Filing Date: 09-29-1999
Country: Australia
Priority Claimed: Yes
Foreign Application Three: PQ3146
Filing Date: 09-29-1999
Country: Australia
Priority Claimed: Yes

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SMART CARD SYSTEMS AND ELECTRONIC TICKETING METHODS

Trademark Acknowledgment

The following description may include words which are, or are asserted to be, proprietary names or trademarks. The inclusion of such words does not imply that such words have acquired, for legal purposes, a non-proprietary or generic significance. Furthermore, no judgement is implied concerning their legal status. In cases where it is considered that proprietary rights may attach to a word, this is indicated by a *propr* superscript, noting that this does not imply a legal judgement concerning the legal status of such words.

Technical Field of the Invention

The present invention relates generally to smart cards and, in particular to electronic ticketing with smart cards and smart cards which having multiple functions.

Background

In recent years, the rise of the Internet, automated telephone services, and other information services has been phenomenal. Information about every conceivable activity is available in large quantities.

The popularity and convenience of "shopping from home" has also increased. While home shopping has been available for many years in the form of "shopping channels" on broadcast or cable television, the presentation of information in such an environment is static, and cannot be tailored to the user's needs. The viewer is not able to return to a previous section of the program in order to review a demonstration of a particular feature of a product. A viewer may only be interested in a particular aspect of the product, but there is no way of choosing which aspects of the product are to be reviewed. In addition, it is difficult for the user to increase the speed of the transaction,

since the information which is vital for the transaction (eg price, terms, etc) is often not available until late in the presentation of the product or service.

The rise of the Internet has solved some of these problems. Users are able to interact with on-line catalogues or shopping malls in a variety of ways. The Internet has fewer restrictions and permits a more user guided electronic shopping experience. However, with the meteoric rise of the Internet, another problem has occurred. With so many sites on the Internet, and so much information available, it is easy to become lost. If the location of a web or page (a URL or Uniform Resource Locator) is lost, it is unlikely that a user will "stumble across" the site again. The bookmarking facilities available with some web browsers have aided the management of URLs. However, these bookmarking facilities usually rely on textual information for identification of the URL. This can be inconvenient, since a user may not clearly remember the text associated with the page, but instead recall an overall "look" of the page, or recall the content of the page.

Another problem with electronic commerce sites on the Internet is that the navigation may not be obvious or intuitive. Also, this navigation cannot often be tailored to the needs of the individual. If an individual is interested only in certain aspects of the product or service, it can be quite frustrating to be forced to travel through various layers of web pages in order to reach the few details which are of significant interest. Access to Internet sites, particularly those from overseas, can be particularly slow, especially at times of peak usage. Access will also be slower if the site contains a lot of large graphics files, such as may be the case for an on-line catalogue. Thus, the use of data intensive (or "rich") types such as video is, in many cases, practically limited by the amount of bandwidth available to the typical user.

If a purchase is to be made via these web sites, it is often necessary to enter credit card details and identification details each time a purchase is made, for security

purposes. This can be quite time consuming. Finally, in order to purchase goods via the Internet, a user must have access to a computer, and have an account with an Internet Service Provider (ISP). When the user desires to use an on-line ordering system on the Internet, he or she must go through the steps of turning on the computer, and connecting to the ISP, before any shopping can commence.

Digital television presents the opportunity for a rich interaction with the data and programs stored on a server, through the large bandwidth available to the digital television viewer. The so-called "set-top" box, necessary for decoding the digital television signals, is also able to control some interaction with the content shown on the digital television. By using a combination of set top box software, server side software, and the network, it is possible to provide many applications that can be used in the home, and which do not require expensive extra equipment. For example, systems for banking, weather updates, and stock market information are being developed for the digital TV market.

However, such information services, while useful, are not always easy to use. The interaction with the information service is limited, since the digital TV remote control was designed to perform a limited number of tasks, interaction with information services using a standard remote control can be complex, and non-intuitive.

Smart cards have been used in electronic commerce for some time. Simple smart cards incorporate memory device whereas advanced smart cards supplement the memory with a processing capability. Smart cards are capable of providing secure encryption of sensitive data, and of providing authentication of electronic transactions. Many other methods are also used for electronic payment, such as digital certificates, and digital cash. A number of these electronic payment techniques use a form of digital certificate which authenticates the user to a vendor, or a third party, where the third party

is responsible for controlling the transaction between the vendor and the user. Once authenticated, the funds for the transaction are able to be received from a nominated bank account. In other methods, the digital certificate authenticates not the user, but a digital representation of funds, which is encapsulated by the digital certificate. Still other methods use smart cards to carry a representation of funds in digital form, known as digital cash or digital wallets.

Business cards are well known and almost all persons engaged in a business have a business card. Typically these are fabricated from cardboard and are very inexpensive, being intended to be given away by the person in business (the donor) to a prospective or existing customer (the donee). Traditionally the business card includes the name of the business person, their title, their educational qualifications, the company name, the address of their office, the contact details such as fax, telephone and e-mail, and like data relating to the donor. In recent times with the reduced cost of reproducing photographic images, very often a photograph of the donor is also provided in order to better refresh the memory of the donee whenever the donee views the business card.

Trading cards are well known, and are commonly bought, sold, traded and collected by many people. These cards are typically produced as sets of cards pertaining to a specific subject, and individual cards in a set typically contain information and images relating to different aspects of that particular subject. For example, a set of trading cards depicting a specific baseball team might have individual cards, each of which depicts a different member of the team. Similarly, a set of trading cards relating to a particular movie could consist of individual cards, each of which depicts a specific character from the movie. Trading cards have traditionally been physical cards, made of printed cardboard, plastic, paper or metal.

US Patent No. 5,689,561 (Pace) describes a computer-based trading card system which uses diskettes as an item which is traded between people. Each of the aforementioned diskettes contains a "key", which is used to unlock data from a compact disk memory (CD ROM), where the CD ROM is accessible across a communications network. The CD ROM contains data in effect corresponding to "cards" in a set of trading cards, and makes this data available to a trader having the aforementioned diskette, and the trader is able to store this data on a hard disk, typically of a local computer operated by the trader. After a single use, however, the key on the diskette is typically disabled permanently.

US Patent No. 5,748,731 (Shepherd) is directed towards "electronic trading cards" where individual encrypted electronic files represent virtual trading cards, and these files are decrypted by a user when the user has a corresponding decryption key.

Also currently available are various types of digital trading cards, which can be bought, sold, and swapped in "virtual" form, ie. without involving a physical card or a physical medium having stored thereon an electronic version of the card. Examples of this genre include Inzomnia *propr* digital trading cards, and Cyberaction *propr* interactive digital trading cards.

In addition to being used for trading and collecting, trading cards can also be used for playing games. These include simple memory games, in which, for example, trading cards are placed face-down, and players attempt to find pairs of matching cards. More sophisticated strategy games are also possible. US Patent No. 5,662,332 (Garfield) is directed to game playing which involves use of trading cards as game components. In one version of this game, cards being used by a player can gain "energy", which allows the player to use the card to perform specific actions particular to the card in question.

Garfield discloses the type of game, incorporating physical cards, as well as equivalent electronic components in computer games, interactive networks and other media.

Smart cards, as well as performing their conventional electronic purpose, can also be collected, traded and displayed in collections. Some types of smart card, such as 'phone cards, are printed with attractive pictures having different designs on different cards, and these are well suited to collecting and trading activities. When used electronically however, these cards are typically used for unrelated purposes, such as banking, access to public telephones and so on.

Physical trading cards typically have printed information concerning the relevant subject matter displayed on the card itself. Thus in one example, statistics relating to the particular baseball player who is pictured on the card can be printed on the card. In another example, a depiction of a game character can be printed on the card, as well as characteristics of the character. If an owner of such a trading card wishes to find out more information about the subject depicted on the card, the owner must typically access associated material in physical form, such as a related brochure. Alternatively, the owner may visit a "web site" which is identified on the card. The physical cards, in this case, can be implemented with a shape and functionality of a CD ROM, thereby being insertable into a CD ROM drive on a personal computer (PC). This facilitates access to network based associated information. Power Deck *propr* trading cards from UpperDeck *propr* use this aforementioned approach.

The need to insert the aforementioned type of CD ROM trading cards into a PC places a conceptual barrier between the user and the trading card environment, and attenuates the degree to which the trading card owner can relate to this environment.

In recent times, smart cards have been gaining commercial acceptance and the percentage of the population which has access to a smart card reader is steadily increasing.

Summary

It is an object of the present invention to substantially overcome, or at least ameliorate, one or more deficiencies of prior art arrangements.

In accordance with one aspect of the present disclosure, there is provided a smart card for electronic ticketing, the smart card comprising:

a substrate;

an electronic memory associated with the substrate;

at least one first indicium on the substrate representing a venue to which tickets are to be sold;

a first data cache stored in the memory and representing displayable information regarding the venue;

at least one second indicium on the substrate representing time varying booking information;

a second data cache stored in the memory and pointing to a remote location at which current values of the booking information are stored;

at least one third indicium on the substrate representing a booking transaction; and

a third data cache stored in the memory and comprising booking transaction enabling data.

In accordance with another aspect of the present disclosure there is provided a system for smart card electronic ticketing, the system comprising:

a smart card according to the first aspect;

a vendor computer arrangement comprising a base memory in which is stored booking information regarding the venue to which tickets are sold by a vendor, updating means to update the booking information during the progress of sales, and a vendor communications link; and

a purchaser arrangement comprising a smart card reader, a purchaser communications link which can communicate with the vendor communication link, and a display coupled to the reader and purchaser communications link for displaying electronic ticketing information.

In accordance with another aspect of the present disclosure there is provided a method for smart card electronic ticketing, the method comprising the steps of:

a vendor preparing at least one smart card as claimed in claim 1;

distributing to a purchaser one of the smart cards;

the purchaser entering the smart card into a card reader arrangement and activating the at least one first indicium to thereby display to the purchaser a representation of the venue;

the purchaser activating the at least second indicium to have the card reader arrangement call and download from a vendor computer over a communications link current booking information regarding the venue and to display the booking information to the purchaser; and

the purchaser activating the at least one third indicium to electronically perform a ticket booking transaction with the vendor, update the booking information in the vendor computer, and store the transacted ticket information in the smart card electronic memory.

In accordance with another aspect of the present disclosure there is provided a multiple purpose smart card for both non-computer based and computer-based information transfer, the card comprising:

a substrate;

an electronic memory associated with the substrate;

a first set of indicia located on the substrate, visible to a human reader and conveying a first set of data relating to the donor of the card;

a second set of indicia located on the substrate and comprising a plurality of icons activatable by the donee of the card; and

at least one of (i) a second set of data stored in the electronic memory means relating to the donor of the card, and (ii) pointing data stored in the electronic memory and pointing to a remote location at which a third set of data relating to the donor is stored;

wherein the card is insertable in a card reader associated with a computer based device, whereupon following activation of at least one of the icons at least part of the second data or third data is used to perform a function using the computer based device.

In accordance with another aspect of the present disclosure there is provided a multiple purpose smart card system, the system comprising:

at least one smart card device comprising a memory device within which is stored data relating to one or more computer interpretable functions represented by icons or indicia formed on a surface of the smart card;

a reader device into which the smart card is insertable, the reader device comprising a transparent touch panel configured to overly the smart card when so inserted whereupon a user selection of any one the icon or indicia through depression of the touch panel at a location above the one icon or indicia causes corresponding the data to be read from the memory device by the reader to implement a corresponding one of the functions;

the system being characterised by a keypad overlay, positionable above the touch panel, and when so positioned activating an alternate set of computer interpretable functions corresponding to a layout of indicia or icons presented on the overlay.

In accordance with another aspect of the present disclosure there is provided a smart card reader device comprising a transparent touch panel beneath which a smart card is positionable for user selection of at least one of a first set of computer interpretable functions related to data stored within the smart card, and a keypad overlay positionable over the touch panel for user selection of at least one of a second set of computer interpretable functions related to data stored within the reader device.

In accordance with another aspect of the present disclosure there is provided a multiple-purpose smart card system, comprising:

a plurality of smart cards forming a set related to predetermined information, each the smart card comprising:

(i) a user interface representing at least one part of, and facilitating access to at least another part of, the predetermined information;

(ii) smart card data associated with the user interface and readable to facilitate the access to the at least another part of the predetermined information;

a smart card reader for reading at least a portion of the smart card data from one the smart card in response to a user interaction with the corresponding the user interface to form an information request;

a database incorporating at least the another part of the particular information and responsive to the information request to output a predefined component of the predetermined information, whereupon the database correlates a collective functionality of the set to smart cards to provide access, using at least each of the plurality of smart cards, to an entirety of the another part of the predetermined information.

In accordance with another aspect of the present disclosure there is provided a method for trading smart cards in a smart card system, the system comprising:

a plurality of smart cards forming a set related to predetermined information, each the smart card comprising:

(i) a user interface representing at least one part of, and facilitating access to at least another part of, the predetermined information;

(ii) smart card data associated with the user interface and readable to facilitate the access to the at least another part of the predetermined information;

a smart card reader for reading at least a portion of the smart card data from one the smart card in response to a user interaction with the corresponding the user interface to form an information request;

a database incorporating at least the another part of the particular information and responsive to the information request to output a predefined component of the predetermined information, whereupon the database correlates a collective functionality of the set to smart cards to provide access, using at least each of the plurality of smart cards, to an entirety of the another part of the predetermined information;

the method comprising the steps of:

choosing one of the smart cards for possible trading;

ascribing, dependent upon the one part of the predetermined data of the chosen smart card, a card-based value;

assessing, dependent upon the corresponding the predefined component of the chosen smart card, an associated database-based value;

determining a composite smart card value, dependent upon the card-based value and the database-based value; and

trading the chosen smart card dependent upon the composite smart card value.

In accordance with another aspect of the present disclosure there is provided a computer program product comprising a computer program for implementing a trading smart card system, each smart card having a programmable user interface the program comprising:

code for choosing a smart card for possible trading;

code for ascribing, dependent upon smart card data of the chosen smart card, a card based value;

code for assessing, dependent upon database data correlated with the smart card data, an associated database-based value, the database data being provided in response to a user interaction with the user interface;

code for determining a composite smart card value, dependent upon the card based value and the database-based value; and

code for trading the chosen smart card dependent upon the composite smart card value.

In accordance with another aspect of the present disclosure there is provided a method of playing a collectible trading card game, the method comprising steps of:

(i) selecting a smart card from a plurality of collectible trading smart cards, each the smart card having a programmable user interface;

(ii) reading smart card data via a user interaction with the interface;

(iii) at least one of navigating, searching and exploring, dependent upon the user interaction, a database which is responsive to the smart card data; and

(iv) accessing associated database data; whereby the method comprises, if the game objective is comparison of corresponding database data, a further step of:

(v) comparing the associated database data with corresponding database data for another smart card from the plurality of collectible trading smart cards.

Brief Description of the Drawings

At least one embodiment of the present invention will now be described with reference to the drawings in which:

Fig. 1 is a schematic view of the computer system 100 operated by a vendor of smart cards;

Fig. 2 is a similar view of a corresponding computer system 200 operated by a purchaser of smart cards;

Fig. 3 is a view of the front face of a smart card able to be operated with the systems of Figs. 1 and 2;

Fig. 4 is a view of the front face of an alternative smart card;

Fig. 5 is a front view of a further alternative smart card;

Fig. 6 is a flow chart depicting use of the smart card of Figs. 3 to 5;

Fig. 7 is a front view of a dual purpose smart card;

Fig. 8 is a view of the rear of the card of Fig. 7;

Fig. 9 is a front view of another dual purpose smart card;

Fig. 10 is a front view of another dual purpose smart card;

Fig. 11 is a rear view of the card of Fig. 10;

Fig. 12 is a front view of another dual purpose smart card;

Fig. 13 is a rear view of the card of Fig. 12;

Fig. 14 is a view of the front face of another dual purpose smart card;

Fig. 15 is a view of the reverse side of the card of Fig. 14;

Fig. 16 is a schematic block diagram of the general purpose computer system with which the described arrangements may be performed;

Fig. 17 illustrates an alternative smart card reader;

Fig. 18 shows the arrangement of the keypad overlay of the reader of Fig. 17;

Fig. 19 is a representation of a trading card system formed using multiple purpose smart cards;

Fig. 20 is a flow chart of method steps by which trading cards of the system of Fig. 19 can be traded; and

Fig. 21 is a flow chart of a method by which a game can be played using the trading cards.

Detailed Description Including Best Mode

The sale of tickets requires a vendor and a number of purchasers. Generally the purchasers will be members of the general public and the vendors will be the organisers of, or promoters of, sporting events, restaurants, travel groups, or any activity which requires a ticket or reservation to be made prior to undertaking the activity.

Illustrated in Fig. 1 is a computer system 100 operated by the vendor. The system 100 includes a computer module 101 to which is connected a keyboard 102, a smart card programmer/reader 10 configured to program and read a smart card 1, a display 114, a printer 115, and a camera 117 which can be either a digital still camera or a digital video camera. The computer system 100 is also connected to a communications link 16 which can take various forms as will be described in more detail hereafter.

Similarly, in Fig. 2 is schematically illustrated the computer system 200 available to the purchaser which includes a computer module 201, a keyboard 202, a display 214 and a communications link 216. Also connected to the computer module 201 is a smart card reader 12 complementing the programmer/reader 10.

Fig. 3 shows a smart card 31 which in this example is intended to be used to sell tickets to a sporting stadium. Located on the smart card 31 is a stadium indicium 32, a view indicium 33, a number of people indicium 34, an event indicium 35, a "book the seat" indicium 36 and scroll indicia 37.

As is well known to those skilled in the art, the smart card 31 includes an inboard storage device (not illustrated) in the form of an integrated circuit which is able to store information corresponding to each of the indicia 32-37. When the smart card 31 is inserted into the smart card reader 12, pressing a transparent membrane located above the smart card 31 at a point corresponding to a particular underlying indicium, activates the information in the corresponding portion of the electronic memory and sends a signal to the corresponding computer module 101 (or 201, etc as the case may be).

Initially the vendor has to both load a (blank) smart card 1 with the relevant data and also prepare the relevant indicia to appear on the smart card 1. The simplest way of preparation of such indicia is to utilise the printer 115 to print adhesive labels 8 which, after printing, are adhered to the corresponding smart card 1 as shown in Fig. 1 to produce the smart card 31 as illustrated in Figs. 2 and 3 or, for example, the smart card 41 of Fig. 4.

In addition, the smart card 1 of Fig. 1 whilst in the programmer/reader 10 has downloaded to it various data to be described hereafter in more detail. Furthermore, the internal memory of the computer module 101 is also loaded with relevant data including images from the camera 117. Naturally the vendor manufactures a large number of such smart cards 1 which may then distributed, in one example without charge, one to each of a large number of prospective purchasers.

From the comfort of his own home and at a time of his own choosing, the purchaser can insert the smart card 31 into his card reader 12 and thereby utilise his computer system 200 to determine which events at the stadium he wishes to attend. By "depressing" the indicium 32 the user activates data within the smart card 31 which connects his computer 201 via the communications link 216 to the communications link 116 and thus to the vendor's computer 101. As a consequence, data is able to be

downloaded to the purchaser's computer 201 which permits a plan of the stadium showing the various seats and their locations to be displayed on the display 214.

By activating the event indicium 35 the display 214 further indicates the dates and contesting teams of various football matches, for example, and by utilising the scroll indicia 37 a particular event can be selected. As a consequence, the screen 214 then displays information from the computer module 101 as to the seats currently available for that particular event and the current price of the seats. Similarly, the scroll indicia 37 are able to be manipulated so as to move amongst the various seats and once a particular seat has been selected a view indicium 33 can be activated so as to display video images of the view from that particular seat of, say, a previous football match. In this way, the purchaser has an excellent idea as to the exact nature of the view able to be obtained from the particular seat.

By activating the "book the seat" indicium 36 and the number of people indicium 34, the purchaser is able to book a number of adjacent seats and conclude the relevant financial transaction. The tickets are able to be paid for using a number of standard payment types for electronic commerce, including but not being limited to, digital cash stored in electronic memory or credit card payments, for example where credit card details of the purchaser are stored on the purchaser's smart card 31, or on a separate smart card which operates from another terminal.

In an alternative arrangement, rather than the vendor distributing the smart cards 31 gratis, the smart cards 31 can be pre-loaded with a number of seats and/or events and sold to the purchaser prior to the purchaser deciding which of the events he wishes to attend. In this arrangement the selection of the seats and events is substantially the same, however in the transaction the action is the booking of a prepaid seat rather than the booking and payment of a seat.

Fig. 4 shows a smart card 41 distributed by a restaurant and contains an indicium 42 which is a plan of the restaurant showing "A" tables on a terrace alongside a river, "B" tables at which are non smoking, and "C" tables at which smoking is permitted. As before, the purchaser installs the smart card 41 into the card reader 12 of his computer system 200 and by pressing the month, day and time indicia 45 is able to view the available unbooked tables at the restaurant. The number of persons (pax) for which the booking is to be made is entered by means of the pax indicium 44 and the scroll indicia 47. Finally activating the "make the reservation" indicium 46 enables a reservation to be made. In this transaction, the communications link to the restaurant's computer module 101 is made in order to ascertain which seats are available, however no financial transaction takes place until the restaurant is visited and the meal paid for.

Where a tourist agency or cruise ship operator is able to sell tickets to various cruises on a particular vessel, a smart card 51 of Fig. 5 is preloaded with data in relation to the vessel itself, its amenities, the proposed cruises to be held in the near future and so on. By pressing on the indicium 52 the nature of the accommodation available on "C deck" is displayed. Again pressing the cabin indicia results in a view of the type of cabin being displayed and other information as to amenities such as en suite toilet, bar fridge, etc. Other cruise specific information is also able to be displayed such as the ports of call, any day trips planned for the cruise, the entertainers booked for the cruise, and so on.

By pressing indicium 56 the connection to the vendor's computer 101 is made. This results in display of the available cabins for various cruises by scrolling through the screen display by means of indicia 57. A selection can then be made. Finally, after selecting a cruise and cabin preference the person is able to book a cabin of a specified type for a specified cruise by pressing the "book cabin" indicia 58. This then leads the

purchaser through a series of electronic steps to finalise the booking including a means of electronic payment.

It will be apparent to those skilled in the art that the indicia provided on the smart card can be divided into three groups. The first group of indicia represents the physical area of the building or facility. The second group of indicia provide access to information about a specific portion of the physical area or premises which is time dependent depending upon the intended date or time of the proposed booking. The third indicia specifies the details for booking a ticket and performing the transaction.

Fig. 6 shows a flow chart of the generalised procedures 60 performed when using the smart cards of Figs. 3 to 5. In step 61, the user inserts the smart card into the reader and in step 62 is able to select primary information, for example the stadium layout or restaurant layout. Information is then displayed and the user can then, in step 63, examine this secondary information. Step 64 determines if a selection is made. If not, step 65 permits, where appropriate, scrolling the secondary information to make an appropriate selection. Where a selection is made in step 64, tertiary information is displayed and examined in step 66. Such information may include numbers of people for which a booking is intended. Scrolling of such information may again be performed via step 68. Once a selection is made in step 67, the user can select the transmission of the booking to the vendor in step 69. It will be appreciated that although Fig. 6 only depicts primary, secondary and tertiary levels of information, the number of such levels may be increased or decreased depending upon the particular service being offered.

It will also be appreciated that the smart cards 31, 41, 51 each constitute a customisable portable user interface and in addition to enabling the event to be booked can also constitute a ticket for entrance to the event. This is accomplished by storing in the smart card 31, 41, 51 the booking details finalised via the communication link 16,

216, necessitating that the system 200 include a programmer/reader 10, rather than merely a reader 12. If the purchaser then takes the smart card to the event and the event venue is itself provided with a smart card reader 12 and associated computer system, entry to the venue can be automatically gained by inserting the smart card 31, 41, 51 into the card reader 12 which then checks the booked details against a master list of all such bookings.

As seen in Figs. 7 and 8, one example of a dual purpose card 70 is of substantially similar size and appearance to a conventional business card and, as depicted in Fig. 7, on the face thereof is a picture 72 of the donor. The card 70 includes text matter 73 such as title, address and telephone numbers etc traditionally found upon business cards. Also located on the front face are an on/off icon 74, a play icon 75 and a send message icon 76.

As seen in Fig. 8, located on the reverse side of the card 70 are the address and contact details of the donor and electrical contacts 78 which enable an integrated circuit (not illustrated but known in the art) located within the card 70 to make electrical contact after the card 70 has been inserted into a card reader 10,13, such as those shown in Figs. 1 and 2.

The computing equipment utilised with the dual purpose card 70 is illustrated in Figs. 1 and 2 with the equipment utilised by the donor being illustrated in Fig. 2 and the equipment utilised by the donee being illustrated in Fig. 1 and the communications links 116 and 216 being coupled in a traditional manner.

In order to create stored information within the card 1, the donor records a video message via the video camera 117 which is then stored within the computer 101. Since the amount of storage within a typical smart card 1 is relatively small (typically 512 bytes) the card programmer/reader 10 is used to write the storage location of the video message within the computer 101 into the card 1 following its insertion into the card

reader 10. As with the previously described arrangement, the printer 115 may be used to print labels 8 for application to each of the front and rear surfaces of the card 1 being programmed.

Once so formed, the card 70 is able to be given to the donee. If the donee does not have the requisite computer equipment available (ie. the reader 12), then the donee may uses the card 70 as a regular business card and simply uses the name and address and conventional contact details printed on the rear surface of the card 70 as a means by which the donee can contact the donor.

However, if the donee has the equipment illustrated in Fig. 2 available, the donee can insert the card 70 into the card reader 12 and press the on icon 74 and the play icon 75. As a consequence, the address of the video message recorded in the computer 101 will be transferred to the computer 201 which then connects, via the communications links 116 and 216 to the computer 101. The computer 101 then transfers the recorded video message to a video e-mail program stored in the computer 201. As a consequence the video e-mail message is displayed on the display 214 and is available to the donee to view whenever desired.

It will be appreciated by those skilled in the computing arts that if a video camera 117 is not available to the donor then the message may be purely audio. In the alternative, the message can also be typed via the keyboard 102 into the computer 101 and therefore constitute only a text or e-mail message.

It will be appreciated that whether the donor's business is selling services or selling products, or both, the message conveyed by the donee can be advertising, promotional information, and the like. The content of the message is limited only by the imagination of the donor and/or his advertising agency.

Turning now to Fig. 9, an example of a card 91 is illustrated. Here the business of the donor is operating a frequent flyer's point scheme for an airline, in this case QANTAS (registered trade mark). The front face of the card 91 is provided with the usual address information 92, and on/off icon 94, a points enquiry icon 95 and an expiry enquiry icon 96.

Prior to the card 91 being given to the frequent flyer member, the on-board memory of the card 91 has stored in it the membership number of the holder. At the member's home or business premises, the card 91 can be inserted into the card reader 12 and the on/off icon 94 pressed to activate the computer 201. As a consequence the membership number and contact details of the airline computer 101 are passed to the computer 201 which calls the airline computer 101 via the communications links 116 and 216.

When the airline computer 101 receives this information it completes the communications link between the two computers and in response to pressing of the points enquiry icon 95 is able to download to the computer 201 the number of points currently available for the frequent flyer. Similarly, if the expiry enquiry icon 96 is pressed then the information about the expiry dates of the currently available points is also downloaded to the computer 201. This information is displayed on the display 214 following its receipt by the computer 201.

Turning now to Figs. 10 and 11, a business card 141 of a further embodiment is illustrated, the front face being illustrated in Fig. 10 and the rear face being illustrated in Fig. 11. In this instance the business conducted by the donor is that of providing cooking classes and on the rear face as seen in Fig. 11 is a recipe for a particular type of biscuit (ANZAC biscuits). This is the information which is used by a donee who does not have a computer system available. However, where the donee does have an appropriate computer system available, insertion of the card 141 into the reader 12 enables

information about the ingredients, preparation, mixing, serving, etc to be displayed on the display 214 as a result of pressing icons 144. This is an application in which the information about ingredients, preparation, etc is able to be of a sufficiently compact nature to be stored entirely within the electronic memory device carried by the card 141.

A further example is illustrated in Figs. 12 and 13 which relates to real estate. The real estate card 151 is illustrated with its front face containing the usual address and contact information 152. As illustrated in Fig. 13, the rear face of the card 151 contains icons 154 which enable real estate information to be downloaded and browsed.

At present for both sale and lease real estate activity, many real estate agents provide information on the Internet as to the listings, even to the point of allowing an enquirer to view different rooms within a given property. However, in the real estate business the identification of a first introduction of a particular prospective purchaser or lessee to a particular premises is all important since it secures the right to commission by the real estate agent. A drawback of the Internet enquiry is that it is essentially anonymous and it is difficult for the real estate business to identify those persons who have enquired at the website of the real estate business. However, in accordance with the arrangement illustrated in Figs. 12 and 13, stored within the electronic memory of the card 151 is a unique identifying number, or customer number, which indicates to the donor the identity of the donee. As a consequence, when the donee enquires via his computer 201 of the information stored in the donor's computer 101, the date and time of the enquiry and the identity of the prospective customer making the enquiry are able to be recorded in the computer 101. Therefore, should the donee approach several real estate agents in relation to the one (same) property, a method of verifying the time of approach is available and enables disputes about commission to be resolved.

Turning now to Figs. 14 and 15, a still further dual purpose business card 161 is illustrated. On the front face of the card illustrated in Fig. 14, in addition to the usual information 163 identifying the business of the donor, are set out a plurality of images 162 which depict scenic locations in the locality of the business. The rear surface of the card 161 is left substantially blank as illustrated in Fig. 15 and therefore the card 161 is able to be used as a conventional postcard. The card 161 may be given away as a promotion or may be purchased by the user. If the user sends the card, for example, to his mother who does not have the computer equipment illustrated in Fig. 2 available to her, then the user is able to record a handwritten message and the card functions substantially in the same way as a conventional postcard. However, should the user send the card to his sister who has the computer equipment illustrated in Fig. 2 available, then in addition to the written information on the rear surface of the card, the sister is also able to display on her computer 201 via the communications link 216, full size images on the display 214 corresponding to the various images 162. These images can be browsed, printed, etc.

Whilst the arrangements described with reference to Figs. 7 to 15 are each described with reference to some form of business function, such is not essential and the dual purpose cards may be used complement a range of related activities. For example, the post card example of Figs. 14 and 15 may be used to replace traditional post cards generally mailed in the course of an extended journey or holiday. Such a dual purpose card 161 may include brief notes written on the card 161 and one or more network references to one or more of text, static images, moving images and audio. Other dual purposes may include a limited menu for take-away food, perhaps including the culinary preferences of the bearer of the card.

Further, whilst in each of the arrangements described, the result of the electronic use of the card comprises a display to the user of certain information, such is also not essential. For example the card may be programmed with the telephone number of the donor, the card may be used to dial the telephone number of the donor and also, where desired by the donor, to display the number to the bearer of the card.

Fig. 16 shows an arrangement of a general purpose computer system 300 which may be used, as required, as either of the systems 100 of Fig. 1 and/or 200 of Fig. 2, by the respectively described parties. The processes required to write data to, or read data from, the card are able to be implemented as software, such as an application program executing within the computer system 300. In particular, the steps of the method are effected by instructions in the software that are carried out by the computer 301. The software may be divided into two separate parts; one part for carrying out the methods; and another part to manage the user interface between the latter and the user. The software may be stored in a computer readable medium, including the storage devices described below, for example. The software is loaded into the computer form the computer readable medium, and then executed by the computer. A computer readable medium having such software or computer program recorded on it is a computer program product. The use of the computer program product in the computer preferably effects an advantageous apparatus for carrying out the embodiments of the invention.

The computer system 300 comprises a computer module 301, input devices such as a card reader/programmer 10,12 a keyboard 302, mouse 303, and camera 117, output devices including a printer 315 and a display device 314. A Modulator-Demodulator (Modem) transceiver device 316 is used by the computer module 301 for communicating to and from a communications network 320, for example connectable via a telephone line 321 or other functional medium. The modem 316 can be used to obtain access to the

Internet, and other network systems, such as a Local Area Network (LAN) or a Wide Area Network (WAN).

The computer module 301 typically includes at least one processor unit 305, a memory unit 306, for example formed from semiconductor random access memory (RAM) and read only memory (ROM), input/output (I/O) interfaces including a video interface 307, and an I/O interface 313 for the keyboard 302, mouse 303, and card reader/programmer 10,12 and an interface 308 for the printer 315, modem 316 and camera 317. A storage device 309 is provided and typically includes a hard disk drive 310 and a floppy disk drive 311. A magnetic tape drive (not illustrated) is also able to be used. A CD-ROM drive 312 is typically provided as a non-volatile source of data. The components 305-314 typically communicate via an interconnected bus 304 and in a manner which results in a conventional mode of operation of the computer system 300 known to those in the relevant art. Examples of computers on which the embodiments can be practised include IBM-PC's and compatibles, Sun Sparcstations or alike computer system evolved therefrom.

Typically, the application program of the preferred embodiment is resident on the hard disk drive 310 and read and controlled in its execution by the processor 305. Intermediate storage of the program and any data fetched from the network 320 may be accomplished using the semiconductor memory 306, possibly in concert with the hard disk drive 310. In some instances, the application program will be supplied to the user encoded on a CD-ROM or floppy disk and read via the corresponding drive 312 or 311, or alternatively may be read by the user from the network 320 via the modem device 316. Still further, the software can also be loaded into the computer system 300 from other computer readable media including magnetic tape, a ROM or integrated circuit, a magneto-optical disk, a radio or infra-red transmission channel between the computer

module 11 and another device, a computer readable card such as a smart card, a PCMCIA card, and the Internet and Intranets including e-mail transmissions and information recorded on websites and the like. The foregoing is merely exemplary of relevant computer readable media. Other computer readable media are able to be practised without departing from the scope and spirit of the invention.

Fig. 17 shows a smart card reader 400 similar in configuration to the readers 10 and 12 in that the reader 400 includes a slot 404 into which a smart card such as those shown in Figs. 3 to 5 or 7 to 15 may be inserted so that any icons or indicia formed on the surface thereof are visible through a transparent touch panel 402 overlying the inserted smart card. In this fashion, use of the inserted smart card may be achieved in the manner previously described by the user selecting a function corresponding to an icon or indicia through the depression of the touch panel 402 at a location above the icon or indicia.

Many applications for such smart cards involve the use of standard keypad layouts the incorporation of which as icons on the surface of the smart card may occupy valuable icon real estate. This deficiency is addressed in the arrangement of Fig. 17 through the reader 400 being configured with keypad overlay 410 formed as a flap 416 connected by means of hinges 412 to the body of the reader 400. A switch 414 is provided to detect those instances when the flap 416 is moved into an operative position above the touch panel 402. Alternatively, the switch may be formed within one of the hinges 410. When then flap 416 is hinged over the touch panel 402, a signal from the switch 414 disables the functions of any icons or indicia beneath the keypad overlay 410 and in turn activates a keypad interpretation of the touch panel 402 corresponding to a layout 420 of the keypad formed in the flap 416 as seen in Fig. 18. Such operation may be achieved using a "shifted" or alternate mapping table stored within the reader 400. Where appropriate, the layout 420 may be opaque so as to present to the user only that

information contained in the layout 420 fro interpretation. Further, whereas the layout 420 shows only a numeric keypad layout having two function buttons (# and *), other layouts may be used, for example alphanumeric layouts such as those commonly found on cellular mobile telephones and the like. Also, the hinged overlay 410 may be relaced by some other physical arrangements, such as a sliding shutter or door.

It will be appreciate from the foregoing that the arrangement of Figs. 17 and 18 provides dual purpose functionality to be achieved when using an appropriately configured smart card. In this regard, it will be also appreciated that some smart cards may not be configured for such dual purpose and in such instance, if the overlay 410 where to be closed (ie. positioned over the touch panel 402), the standard functions of any underlying icons or indicia may be either maintained thereby causing the layout 420 to have no effect. Alternately, that portion of the touch panel 402 beneath the overlay 410 may be isolated and made inoperative prompting a message to the user, for example via the display 114, 214 that an invalid operations is being attempted. In a further configurations the smart cards of Figs. 3 top 5 may be availed of a second function through use of the reader 400, the second function permiting extended alphanumeric data entry to confirm the booking being made.

Fig. 19 shows a trading card system. The system includes a set of collectible trading smart cards 500, of which a particular smart card 502 is representative. As depicted by a dashed arrow 504, in a magnified form 506, the trading smart cards 500 each has an associated on-board memory 508 which in some instances may include a processing capacity and is typically formed or disposed on a surface of the card 506. In the present instance, the memory 508 is disposed on a rear surface of the card 506. The card 506 further comprises a number of "icons" or indicia 510, each of which being formed by a visually distinctive image, which can be either text, or graphic in nature.

Furthermore, the card 506 has a larger image area 512, which comprises a mixture of text and/or graphic information, and typically relates to a key topic with which the card 506 is concerned.

Thus, in one particular example, the image region 512 may depict a famous baseball player, and the icon 510 contains the text, "scoring record" as well as other summary information regarding the particular player. In this case, the card 506 is a baseball trading card relating to a particular player, and the set of cards 500 is a corresponding set of baseball trading cards relating to the particular baseball team.

The set of trading cards 500 can be used in a traditional fashion, with cards being bought, sold, and swapped in accordance with their perceived "value", as measured by attributes associated with the physical cards themselves. This value is typically associated with the particular player featured on the card, as well as the attractiveness of the card to the traders involved, and in some instances the scarcity of the card.

In addition, however, the card 506 can be inserted, as depicted by a dashed arrow 514, into an access slot 532 of a smart card reader 528. When the card 506 is so inserted, the various icons (eg. 510) and visual information (eg. 512) are visible through an transparent touch panel 530 which is provided in the smart card reader 528. The smart card reader 528 as seen in Fig. 19 is connected, by a connection 544, to a processor 516 which has a display region 518. The processor 516 and display region may for example be formed by the computer system 300 of Fig. 16. The processor 516 is functionally connected to the card reader 528, and thereby has access to the card memory 508. Accordingly, the processor 516 is able to detect, and respond, to user interactions with the card 506, the user interactions with the card 506 typically being detected via depression of the touch panel 530 by the user at location corresponding to the desired icon 510. In this description, where the phrase "pressing or selecting an icon" is used, such is to be

interpreted to mean the aforementioned pressing action by the touch panel 530 associated with the underlying icon formed on the surface of the smart card. Accordingly, a user can press on the icon 510 once the card 506 is inserted into the smart card reader 528, and the processor 516 is able to detect this user interaction, and to associate it with an interface description stored in the memory 508. The interface description defines an intended action which is to be associated with pressing the icon 510. The intended action, in the present case, is to search for relevant scoring data for the baseball player featured on the card 506. The processor 516 is interconnected, as depicted by a dashed arrow 520 to a communications network 522. In turn, a database 526 is connected, as depicted by a dashed arrow 524, to the network 522, and accordingly, the database 526 is accessible to the processor 516. The database 526 stores, as depicted by the line 540, database data 542 which is associated with the card 506.

In addition to the text and graphic information 510, 512 displayed on the physical card 506, an extended set of data, for example the data 542, is made available to the owner of the card 506 when the card 506 is inserted into the smart card reader 528. The combination of smart card data 512, 510, when considered in conjunction with the corresponding database data 542, forms an extended and enhanced collectible trading smart card data set. This significantly extends the perceived "trading card world" to which the trading card owner can relate.

Using the example of a set of baseball smart cards relating to a particular team, all information regarding the team and represented by information on the faces of all cards in the set and all information within the database may be considered a predetermined set of information. Further, some of that information may only appear on the faces of the cards, and not necessarily all cards, whereas much of the information would typically reside in the database and be selectably accessible to a trader in

possession and operating particular cards in the set. For example, a card for Joe Bloggs an outfielder of the baseball team may be considered of little value and hence whilst the face of the card may provide brief biographical and statistical information regarding Bloggs, the portion of the database accessible using the card for Bloggs may only provide a small amount of further biographical and statistical information about only Bloggs. In contrast, a card for Todd Legend, captain of the baseball team and star pitcher, may be of high value and provide the user with access to all biographical and statistical information regarding all players in the team, including Bloggs. Other smart cards may be configured to provide access to historical information regarding the team and the club they represent. With differing levels of database access being ascribed to different cards, users have a means by which a collectible value may be assigned to each card.

It will be appreciated from this example that the configuration of the database to provide selective levels of access to holders of particular cards to the set of predetermined information, can create a situation where the perceived collectible value of a card may be created as a function of the quantity, and in some cases quality, of information made available to the user. Further, the operator of the database may influence the collectible value of the cards, for example as the baseball season progresses, to reflect the relative changes in performance of individual team members. For example, whereas the card for Legend may have high value at the commencement of the season, as acquired from the previous season's performance, a series of poor performances by Legend and good performances by Bloggs may prompt the database operator to reduce the data accessible for the Legend card and increase the data accessible by the Bloggs card. Further, where the cards of the team described above form a sub-set of all teams in the baseball competition, the relative value of cards of certain teams may be adjusted to track changes in the competition ladder.

The visual and user interface aspects of the trading cards can be customised, and need not be defined by the card manufacturer. This ability to customise is advantageous, since it places flexibility into the hands of the trading card supplier.

A card can be customised, for example, by inserting the card into a card reader/programmer which is connected to a personal computer (PC) running an appropriate software application. Customisation information can be provided by the trading card supplier, and consequently a programmed (customised) card is produced by the smart card programmer/reader. The card is customised both electrically, in terms of the interface descriptions associated with the various icons on the card surfaces, and also physically, in terms of the visual aspects and information printed or otherwise applied to the surface of the card 506.

Fig. 20 is a flow chart of method steps by which the trading cards 500 may be traded. A trading process 600 commences with a selection step 602, in which a trader selects a card for consideration in a trading transaction. Thereafter, in a step 604, a card based value is assessed, this value being derived from information such as the icons 510 and images/text 512 on the physical card 506. This value forms one element of the overall value of the card 506.

Thereafter, in a step 606, the card in question is inserted into the smart card reader 528. In a following step 608, the associated database data 542 is accessed. The accessing of the associated database data 542 is performed by a judicious combination and/or sequence of user interactions with the icons 510 on the smart card 506 after insertion of the smart card 506 into the smart card reader 528. The user is able, by means of the icons 510, to access the associated set of data 542 which is effectively "coupled" to the particular smart card 506, and also to the set of smart cards 500 of which the smart card 506 is a member. In a following step 610, the database based "value" of the

card 506 is assessed by the trader. The value ascribed in this regard by the trader to the card 506 will typically be based upon the richness of the database information that is accessible by means of the card 506, as well as other features relating to the manner in which the information 542 is configured, and other information configuration parameters. Thereafter, a testing step 612, the trader has the option of either partially, or fully, exercising the interactive capabilities of the card 506, this option being depicted by a looping arrow 614.

Once the trader has sufficiently assessed the database based value of the card in question, the process 600 is directed to an assessment step 616, in which a composite value for the card in question 506 is assessed. This composite value is the aggregate of the card-based value, and the database-based value.

A following trading step 618 crystallises the trading transaction, and the owner of the card 506 either trades the card, or maintains ownership, depending on trading terms offered by a respective "buyer".

The entire trading process 600 can be repeated if more card trades are desired, as depicted in a decision step 620. If such further trades are indeed desired, the trading process 600 is directed, in accordance with an arrow 624, back to the initial selection step 602. Alternatively, the trading process 600 is directed to a termination step 622.

The trading process 600 can also take an abbreviated form, in which the trader progresses directly from the card-based assessment step 604 to the trading step 618 as depicted by the interconnecting dashed arrow 626. Therefore, that the trading process is flexible, and not restricted to the particular depiction provided in Fig. 20.

Fig. 21 is a flow chart of method steps by which a game 716 can be played using the trading cards 500. The game 716 commences with a step 700 in which a player selects a "game" smart card from a set of game smart cards. It be appreciated that the set

of trading cards 500 forms the set of game cards in the present instance, and the card being selected will, for example, be the card 506 from this set (see Fig. 19). Thereafter, the selected card 506 is inserted into a smart card reader in a step 702. The player is then able, in a step 704, to navigate a database (eg. 526 in Fig. 19) using card "controls", such as the icons 510. In a following step 706, database information 542 can be accessed using the aforementioned navigation as an access mechanism.

In configuration of the game 716, the player can loop, as depicted by an arrow 712, back to the initial selection step 700, for selection of a different card. In this example, a game objective is restricted to accessing and considering database data 542 associated with the selected card 506, such as might be the case with an adventure game which involves navigation from place to place with no further actions. In another example, the process 716 proceeds to a comparison step 710, in which accessed information for different cards in the set is compared. The various cards being compared are "played" by following an arrow 714 and subsequent steps 700 to 710, in a repeating sequence.

A dashed horizontal line 708 is used in Fig. 21 to indicate that the game process 716 can typically be played in a single, or a multi-player mode, if the step 710 is included. On the other hand, the game processes 716 lying above the dashed line 708 are typically played in single player mode.

The methods of trading collectible interactive trading smart cards, and/or playing a collectible interactive trading card game, are preferably practiced using the general-purpose computer system 300, as shown in Fig. 16 wherein the processes of Figs. 20 or 21 may be implemented as software, such as an application program executing within the computer system 300. In particular, the steps of trading collectible interactive trading

smart cards, and/or playing a collectible interactive trading card game, are effected by instructions in the software that are carried out by the computer.

Whilst the collectible nature of the smart cards described above have been illustrated with reference to baseball cards many other uses may apply. For example the described arrangements may be applied to other team sports such as basketball, soccer and rugby. Further sets of the business cards described above may be configured in a complementary manner, for example to access details on corporate performance to assist with the making of investment decisions. A further example relates to children's toys and games and to where a set of cards for a particular range of toy products, such a fighting characters, may be used to provide access to different levels of game complexity available from the database and played using the cards. For example "beginner" level fighting may be available on many cards, whereas "expert" level fighting may only be available on a few cards. As a consequence, the "expert" cards will attract a high trading value whereas the "beginner" cards will have low trading value. Such encourages users to trade the cards in order to progress through the various playing levels.

From the forgoing, it will be appreciated that disclosed are smart cards having multiple purposes, in some cases dual purposes and, in the case of a trading card possibly four purposes, those being a carrier of visual information, an access interface for electronic information, an access interface for playing a game, an as a tradeable commodity. Other multiple purpose smart cards, namely smart cards which have a function in their own right, as well as an extended related functionality when inserted into a smart card reader which is appropriately connected to a network, fall within the scope of this disclosure. Examples of such include business cards, recipe cards (cards having a recipe displayed on the cards themselves, as well as providing access to interactive recipe information over a network), and hotel room key-cards (used in a physical sense for room

entry, as well as for accessing room service over a network, and having an address of the hotel printed on the card, along with possibly a map of the hotel location). A further example are promotional cards, such as smart cards having pictures of products with an associated price and location of a sales outlet, while additionally having an on-line functionality related to purchase of products in an electronic-commerce context.

It will also be apparent, that although the game process 716 has been described in terms of a relatively "static" information comparison context, be it a single or multi-player competition, further implementations are possible within the scope of the present disclosure. Thus, for example, the smart card control icons510 (see Fig. 19) can be used on an inserted smart card in the smart card reader 528 to play action games. These controls can initiate actions such as picking up objects, using objects, and performing physical actions with respect to other characters. The aforementioned objects are virtual objects as comprehended by the game player by means of a display. If a number of smart card readers are available, then multiple players can play these action games in a multi-player context.

Industrial Applicability

It is apparent from the above that the described arrangements are applicable to the business, entertainment, leisure and travel industries. It will also be apparent from the above that the arrangements described are applicable to a wide range of industries including industries involved in the sale of products as well as service industries involved in the provision of services and information.

The foregoing describes only some embodiments of the present invention, and modifications and/or changes can be made thereto without departing from the scope of the invention.

WE CLAIM:

1. A smart card for electronic ticketing, said smart card comprising:

a substrate;

an electronic memory associated with said substrate;

at least one first indicium on said substrate representing a venue to which tickets are to be sold;

a first data cache stored in said memory and representing displayable information regarding said venue;

at least one second indicium on said substrate representing time varying booking information;

a second data cache stored in said memory and pointing to a remote location at which current values of said booking information are stored;

at least one third indicium on said substrate representing a booking transaction; and

a third data cache stored in said memory and comprising booking transaction enabling data.

2. The smart card as claimed in claim 1, wherein said displayable information regarding said venue comprises a plan of a physical layout of said venue.

3. The smart card as claimed in claim 2, wherein said at least one first indicium comprises a representation of said plan.

4. The smart card as claimed in claim 1, wherein said booking transaction enabling data is in respect of a payment made at the time of booking.

5. The smart card as claimed claim 1, wherein said booking transaction enabling data is in respect of booking a pre-paid ticket.

6. The smart card as claimed in claim 1, wherein said second data cache comprises an address within a computer network of a vendor supplying said smart card.

7. The smart card as claimed in claim 1, wherein said electronic memory contains details of said booking transaction and said smart card is transportable to said venue and said booking transaction is readable at said venue to permit access thereto by the bearer of said smart card.

8. A system for smart card electronic ticketing, said system comprising:

a smart card as claimed in claim 1;

a vendor computer arrangement comprising a base memory in which is stored booking information regarding said venue to which tickets are sold by a vendor, updating means to update said booking information during the progress of sales, and a vendor communications link; and

a purchaser arrangement comprising a smart card reader, a purchaser communications link which can communicate with said vendor communication link, and a display coupled to said reader and purchaser communications link for displaying electronic ticketing information.

9. The system as claimed in claim 8, wherein said vendor computer arrangement further comprises printer means for creating said indicia on said substrate.

10. The system as claimed in claim 9, wherein said printer means prints adhesive labels which are subsequently adhered to said substrate.

11. The system as claimed in claim 8, wherein said vendor computer arrangement further comprises image capturing means and said booking information includes at least one image of that portion of said venue available to be booked.

12. The system as claimed in claim 11, wherein said image capturing means comprises a video camera and said booking information includes video images.

13. The system as claimed in claim 8, further comprising a smart card reader located at said venue and operable to determine access thereto.

14. A method for smart card electronic ticketing, said method comprising the steps of:

a vendor preparing at least one smart card as claimed in claim 1;

distributing to a purchaser one of said smart cards;

said purchaser entering said smart card into a card reader arrangement and activating said at least one first indicium to thereby display to said purchaser a representation of said venue;

said purchaser activating said at least second indicium to have said card reader arrangement call and download from a vendor computer over a communications link

current booking information regarding said venue and to display said booking information to said purchaser; and

said purchaser activating said at least one third indicium to electronically perform a ticket booking transaction with said vendor, update the booking information in said vendor computer, and store the transacted ticket information in said smart card electronic memory.

15. The method as claimed in claim 14, including the further step of said vendor distributing each said smart cards to a corresponding purchaser without charge and said electronic ticket selling transaction including payment from said purchaser to said vendor.

16. The method as claimed in claim 14, including the further step of said vendor distributing each said smart card to a corresponding purchaser with a charge and said electronic ticket selling transaction comprising booking a pre-paid ticket.

17. The method as claimed in claim 14, including the further step of utilising the transacted ticket information stored in said card to permit access to said venue.

18. A multiple purpose smart card for both non-computer based and computer-based information transfer, said card comprising:

a substrate;

an electronic memory associated with said substrate;

a first set of indicia located on said substrate, visible to a human reader and conveying a first set of data relating to the donor of said card;

a second set of indicia located on said substrate and comprising a plurality of icons activatable by the donee of said card; and

at least one of (i) a second set of data stored in said electronic memory means relating to the donor of said card, and (ii) pointing data stored in said electronic memory and pointing to a remote location at which a third set of data relating to the donor is stored;

wherein said card is insertable in a card reader associated with a computer based device, whereupon following activation of at least one of said icons at least part of said second data or third data is used to perform a function using said computer based device.

19. The card as claimed in claim 18 wherein said computer based device comprises an output display device and said function comprises rendering said at least part of said second or third data to said output display device.

20. The card as claimed in claim 19, wherein one of said second and third sets of data comprises a text message.

21. The card as claimed in claim 19, wherein one of said second and third sets of data comprises an audio voice message.

22. The card as claimed in claim 19, wherein one of said second and third sets of data comprises a video message.

23. The card as claimed in claim 19, wherein said first set of data comprises the name and contact information of the donor.

24. The card as claimed in claim 19, wherein one of said second and third sets of data relates to a business activity of said donor.

25. The card as claimed in claim 24, wherein said business activity comprises real estate products and services.

26. The card as claimed in claim 19, wherein one of said second and third sets of data relates to information status of the donee's role in the donor's business.

27. The card as claimed in claim 26, wherein the donor's business comprises the allocation of business bonus points and said information status comprises the number of points allocated to the donee by the donor.

28. The card as claimed in claim 27, wherein the bonus points comprise frequent flyer points.

29. The card as claimed in claim 26, wherein the donor's business comprises the allocation of credit and said information status comprises the current outstanding balance of the donee's account.

30. The card as claimed in claim 19, wherein the donor's business comprises the provision of culinary services and said first set of data includes a recipe for a dish and one of said second and third sets of data comprises instructions relating to the preparation of said dish.

31. The card as claimed in claim 19, wherein said output device comprises a screen display.

32. A multiple purpose smart card system, said system comprising:

at least one smart card device comprising a memory device within which is stored data relating to one or more computer interpretable functions represented by icons or indicia formed on a surface of said smart card;

a reader device into which said smart card is insertable, said reader device comprising a transparent touch panel configured to overly said smart card when so inserted whereupon a user selection of any one said icon or indicia through depression of said touch panel at a location above said one icon or indicia causes corresponding said data to be read from said memory device by said reader to implement a corresponding one of said functions;

said system being characterised by a keypad overlay, positionable above said touch panel, and when so positioned activating an alternate set of computer interpretable functions corresponding to a layout of indicia or icons presented on said overlay.

33. A system according to claim 32 wherein said overlay forms part of said reader device and is configured to be removably positionable above said touch panel to enable user selection of one or more of said alternate set of computer interpretable functions.

34. A system according to claim 33 wherein said overlay comprises a flap hingedly connected to said reader device and associated with a switch configured to detect

positioning of said flap over said touch panel to thereby activate said alternate set of computer interpretable functions.

35. A smart card reader device comprising a transparent touch panel beneath which a smart card is positionable for user selection of at least one of a first set of computer interpretable functions related to data stored within said smart card, and a keypad overlay positionable over said touch panel for user selection of at least one of a second set of computer interpretable functions related to data stored within said reader device.

36. A multiple-purpose smart card system, comprising:

a plurality of smart cards forming a set related to predetermined information, each said smart card comprising:

(i) a user interface representing at least one part of, and facilitating access to at least another part of, said predetermined information;

(ii) smart card data associated with said user interface and readable to facilitate said access to said at least another part of said predetermined information;

a smart card reader for reading at least a portion of said smart card data from one said smart card in response to a user interaction with the corresponding said user interface to form an information request;

a database incorporating at least said another part of said particular information and responsive to said information request to output a predefined component of said predetermined information, whereupon said database correlates a collective functionality of said set to smart cards to provide access, using at least each of said plurality of smart cards, to an entirety of said another part of said predetermined information.

37. A system according to claim 36, wherein said database is configured to provide different ones of said smart cards of said set access to different predefined components of said predetermined information.

38. A system according to claim 36, wherein said smart card data of each said smart card of said set is configured to define access to a corresponding said predefined component of said predetermined information.

39. A system according to claim 36 wherein said user interface of each said smart card is programmable at least by an operator of said database.

40. A system according to claim 39, wherein each said smart card comprises at least one of an on-board processor and a memory.

41. A system according to claim 39, wherein said user interface comprises at least one user selectable icon disposed on a surface of the corresponding said smart card, said icon being associated with corresponding said smart card data.

42. A system according to claim 41, wherein said icon provides a visual interpretation of said at least one part of said predetermined information.

43. A method for trading smart cards in a smart card system, said system comprising a plurality of smart cards forming a set related to predetermined information, each said smart card comprising:

(i) a user interface representing at least one part of, and facilitating access to at least another part of, said predetermined information;

(ii) smart card data associated with said user interface and readable to facilitate said access to said at least another part of said predetermined information;

a smart card reader for reading at least a portion of said smart card data from one said smart card in response to a user interaction with the corresponding said user interface to form an information request;

a database incorporating at least said another part of said particular information and responsive to said information request to output a predefined component of said predetermined information, whereupon said database correlates a collective functionality of said set to smart cards to provide access, using at least each of said plurality of smart cards, to an entirety of said another part of said predetermined information;

said method comprising the steps of:

choosing one of said smart cards for possible trading;

ascribing, dependent upon said one part of said predetermined data of said chosen smart card, a card-based value;

assessing, dependent upon the corresponding said predefined component of said chosen smart card, an associated database-based value;

determining a composite smart card value, dependent upon said card-based value and said database-based value; and

trading said chosen smart card dependent upon said composite smart card value.

44. A computer program product comprising a computer program for implementing a trading smart card system, each smart card having a programmable user interface said program comprising:

code for choosing a smart card for possible trading;

code for ascribing, dependent upon smart card data of said chosen smart card, a card based value;

code for assessing, dependent upon database data correlated with said smart card data, an associated database-based value, said database data being provided in response to a user interaction with said user interface;

code for determining a composite smart card value, dependent upon said card based value and said database-based value; and

code for trading said chosen smart card dependent upon said composite smart card value.

45. A method of playing a collectible trading card game, said method comprising steps of:

(i) selecting a smart card from a plurality of collectible trading smart cards, each said smart card having a programmable user interface;

(ii) reading smart card data via a user interaction with said interface;

(iii) at least one of navigating, searching and exploring, dependent upon said user interaction, a database which is responsive to said smart card data; and

(iv) accessing associated database data; whereby said method comprises, if said game objective is comparison of corresponding database data, a further step of:

(v) comparing said associated database data with corresponding database data for another smart card from said plurality of collectible trading smart cards.

46. A method of playing a collectible trading card game according to claim 45, whereby steps (i) to (v) are performed by one of:

a single player; and

multiple players, said steps being performed in a shared manner among the multiple players.

Abstract

SMART CARD SYSTEM AND ELECTRONIC TICKETING METHODS

Disclosed is an electronic ticketing system (100, 200) and method (60) utilising a smart card (31). The smart card can be loaded with pre-purchased tickets which are then booked at a subsequent date. Alternatively, the booking and payment for the ticket can be made at the one transaction. The smart card is customisable by a user (100) who would normally be a promoter or organiser of an event for which tickets are required. Also disclosed is a multiple purpose card (70, 91, 141, 151, 161) which is both a smart card having electronic data stored (78) therein and a conventional business card having information (72) printed thereon for use by a reader. The donee of the card is able to insert same into a card reader (12) to obtain detailed information from the computer (100) of the donor of the card. The multiple prupose smart card may also be used as a trading card (506) as part of a set (500) of similar cards each offering differing levels of user access to a database (526) related to the set.

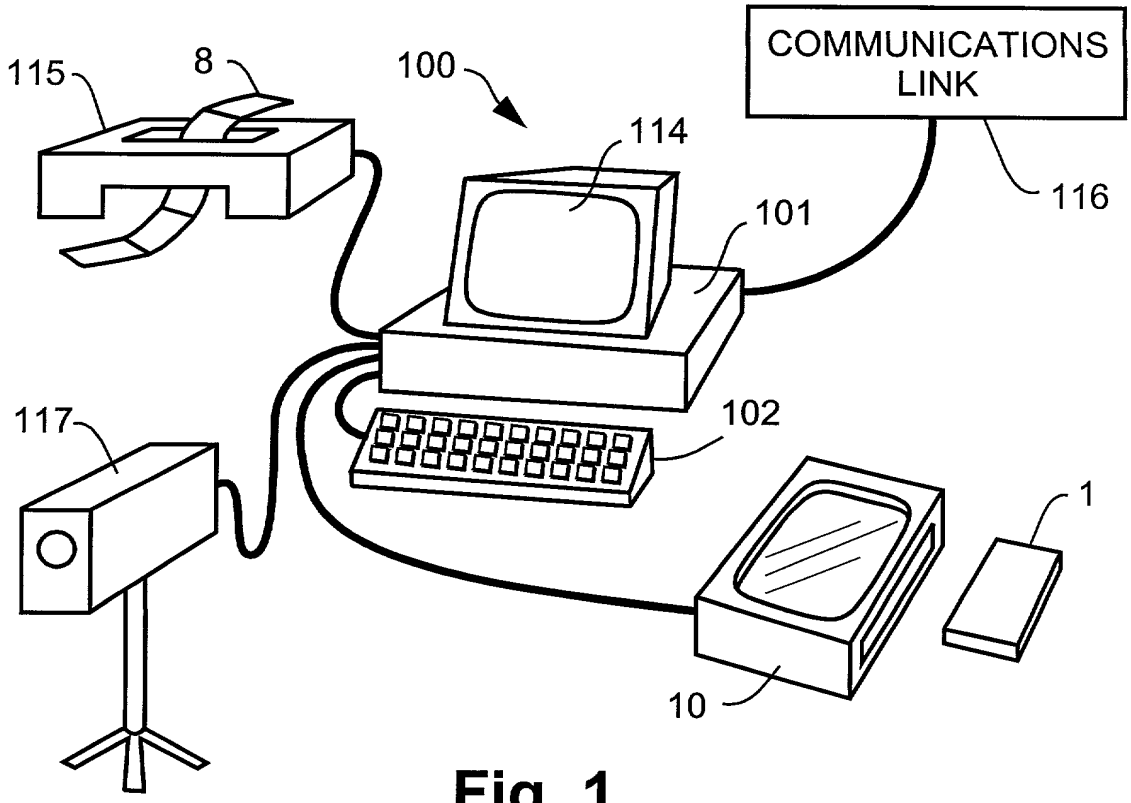
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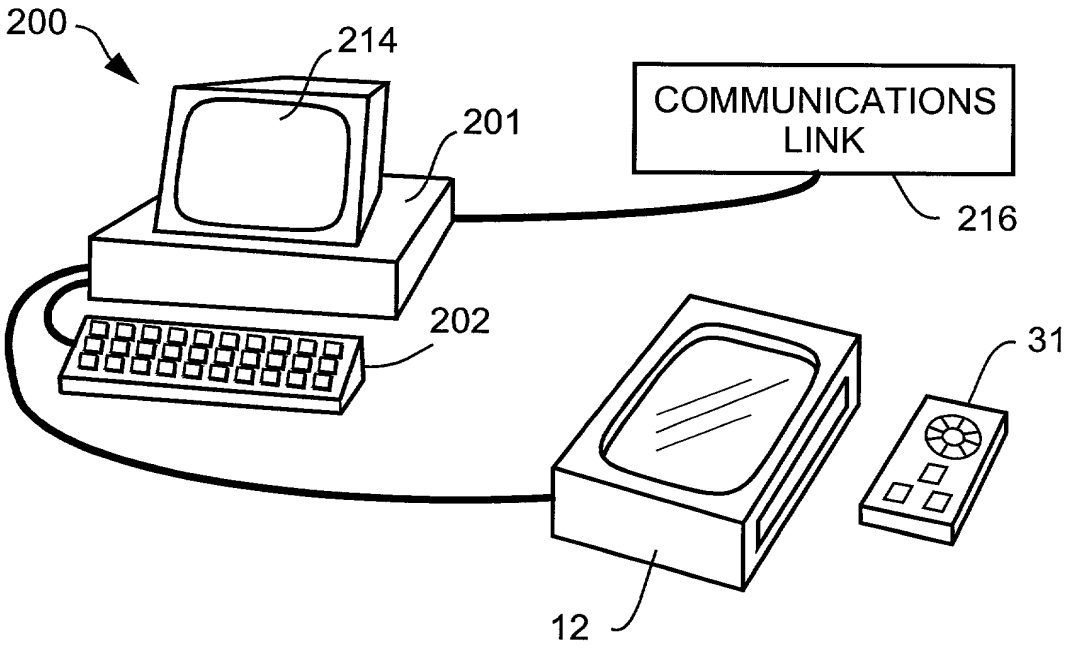
Fig. 1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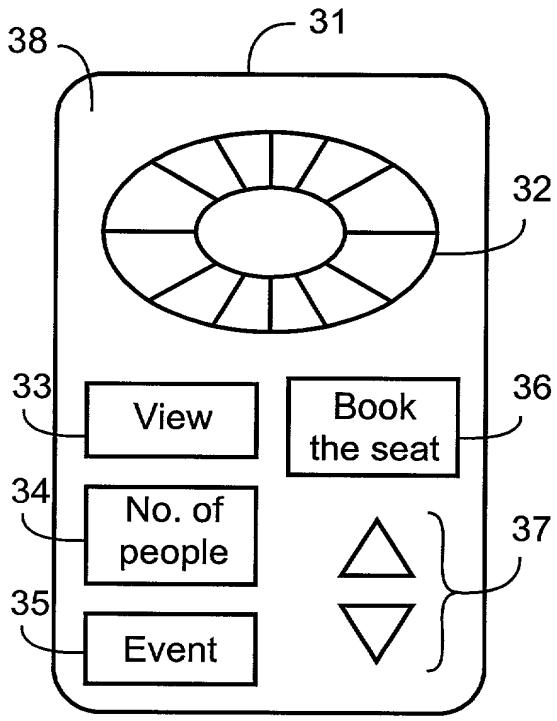
202
31
12

Fig. 2



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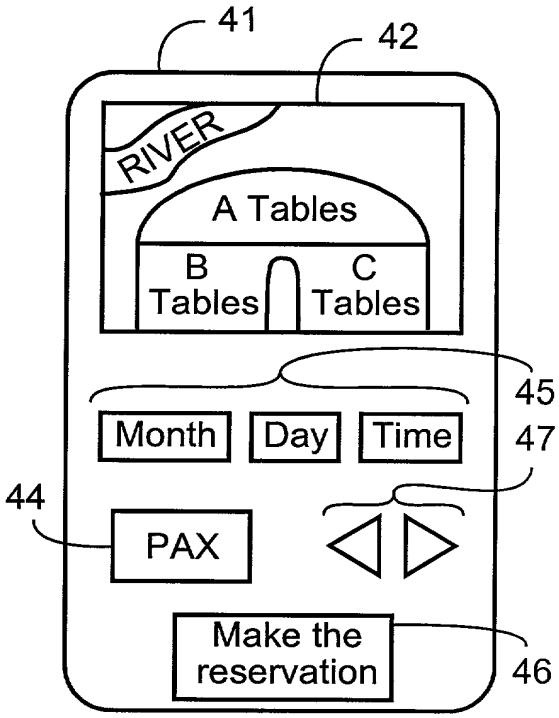

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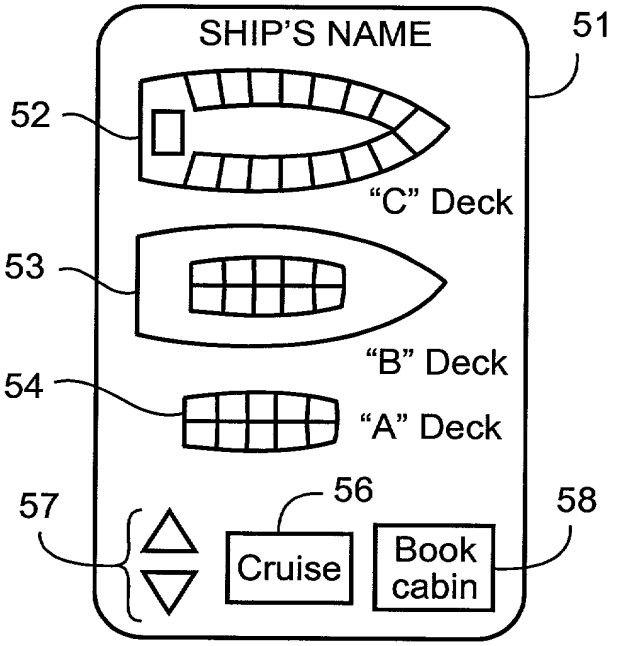


Fig. 5

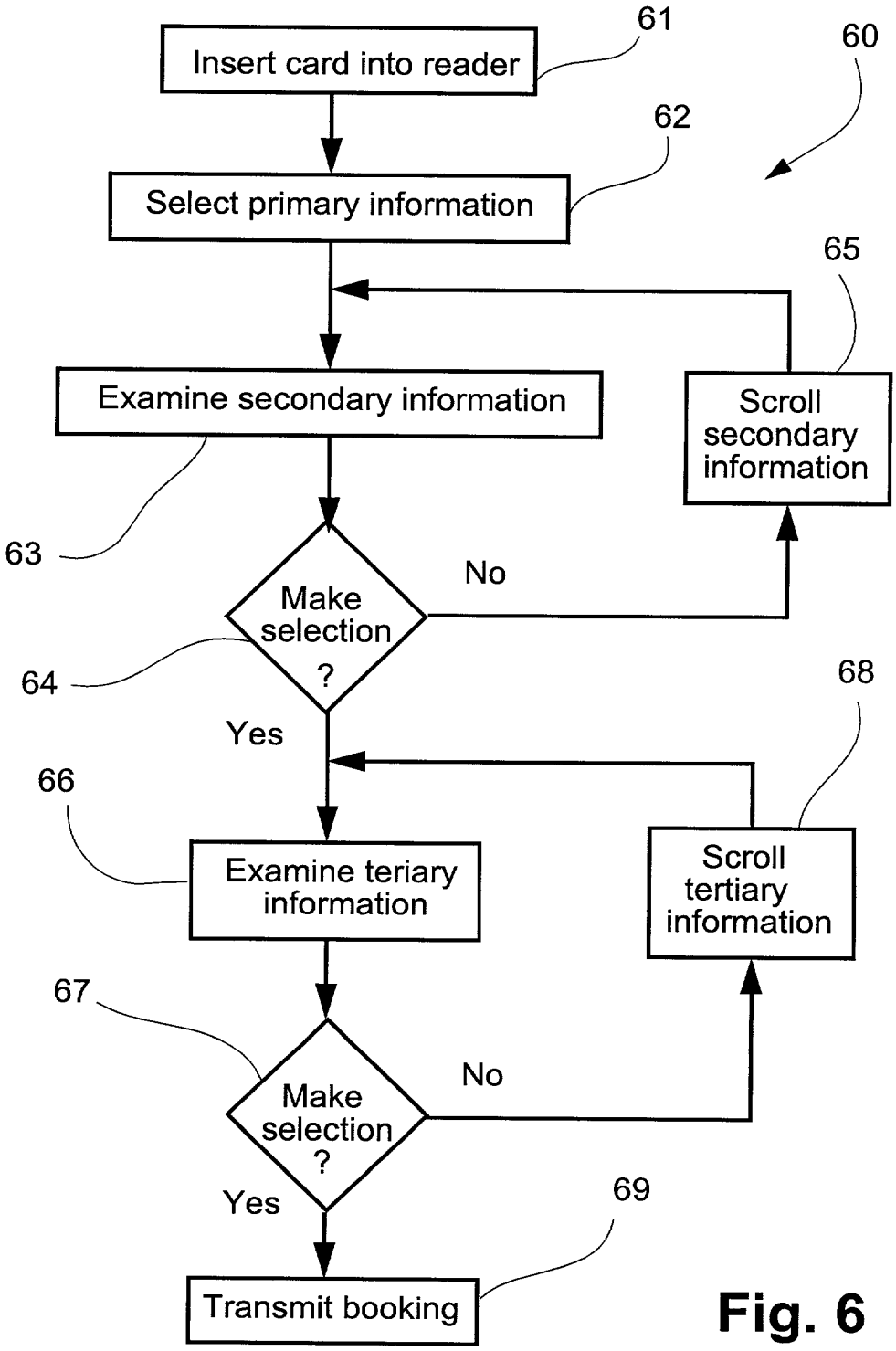

Insert card into reader
61
60
62
Select primary information
65
Examine secondary information
Scroll secondary information
63
Make selection ?
No
64
68
Yes
66
Examine teriary information
Scroll tertiary information
67
Make selection ?
No
Yes
69
Transmit booking

Fig. 6

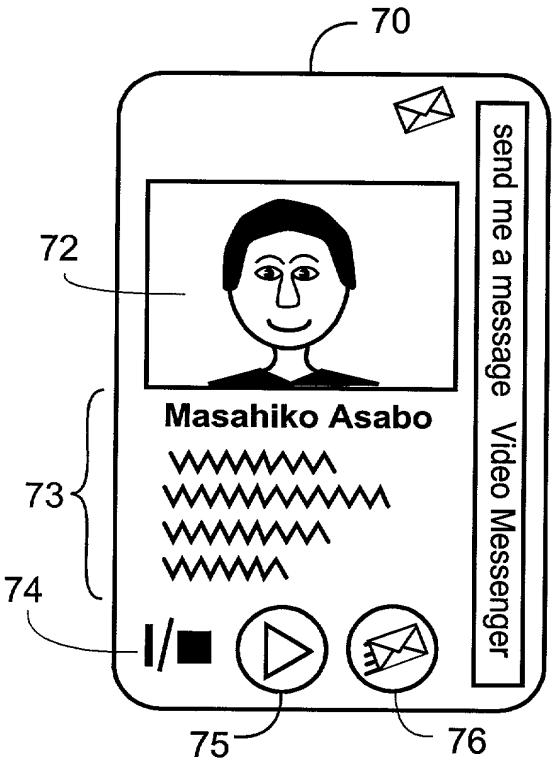


Fig. 7

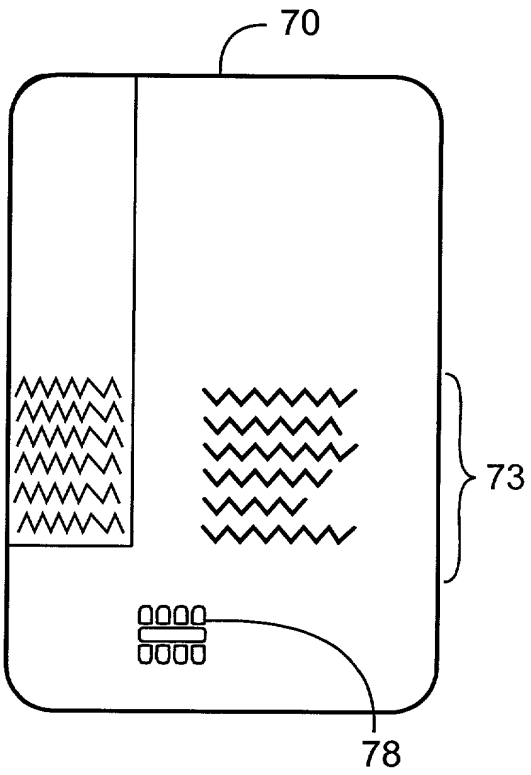
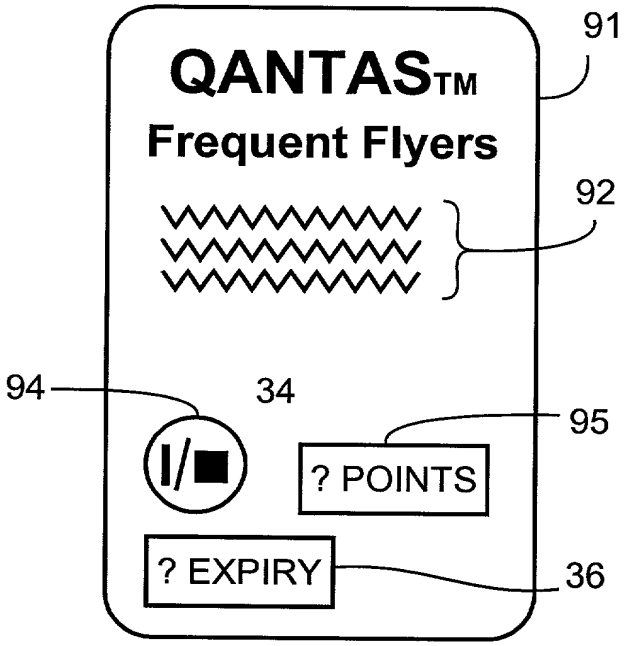


Fig. 8



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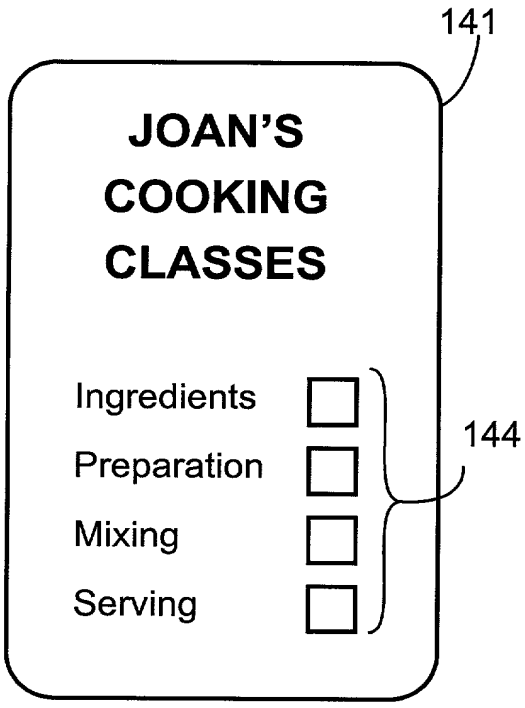

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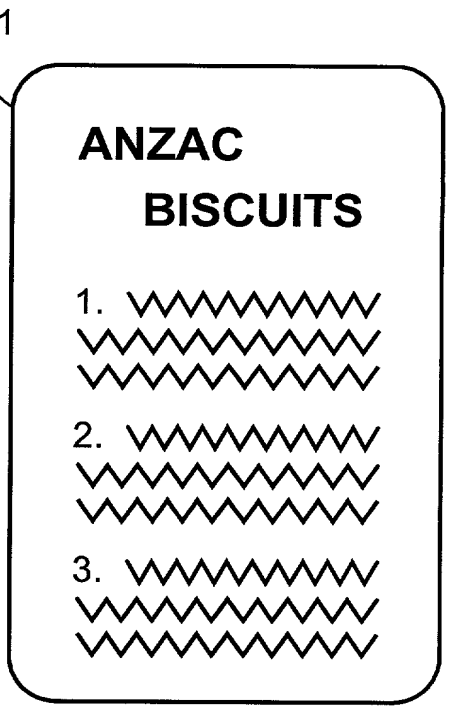
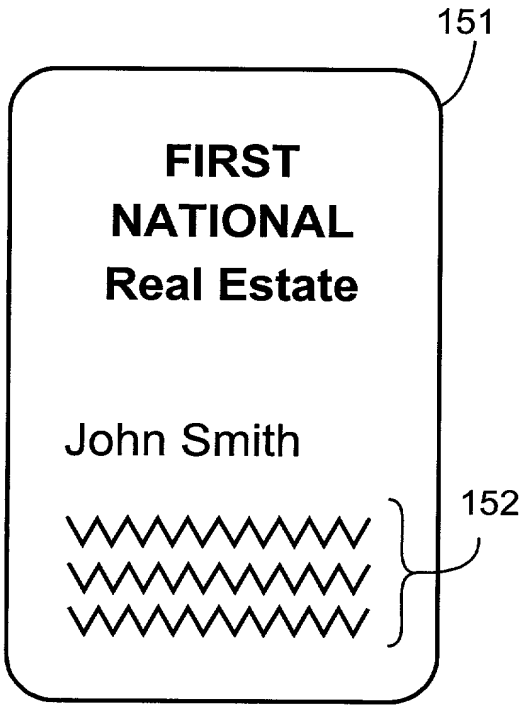


Fig. 11



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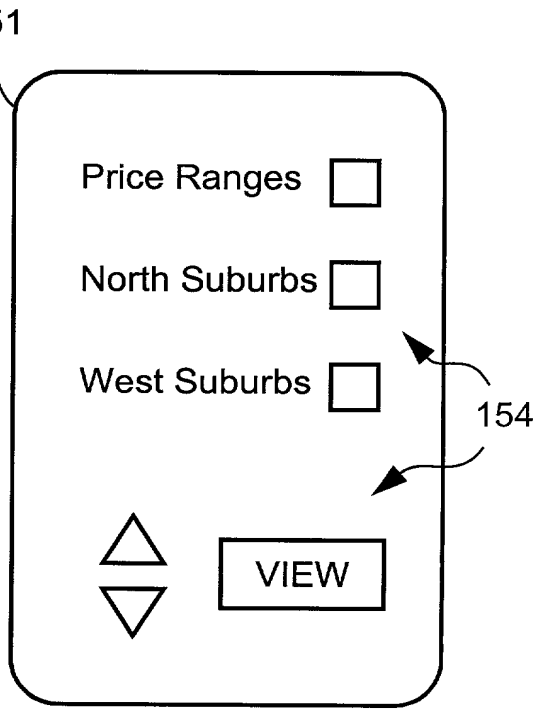
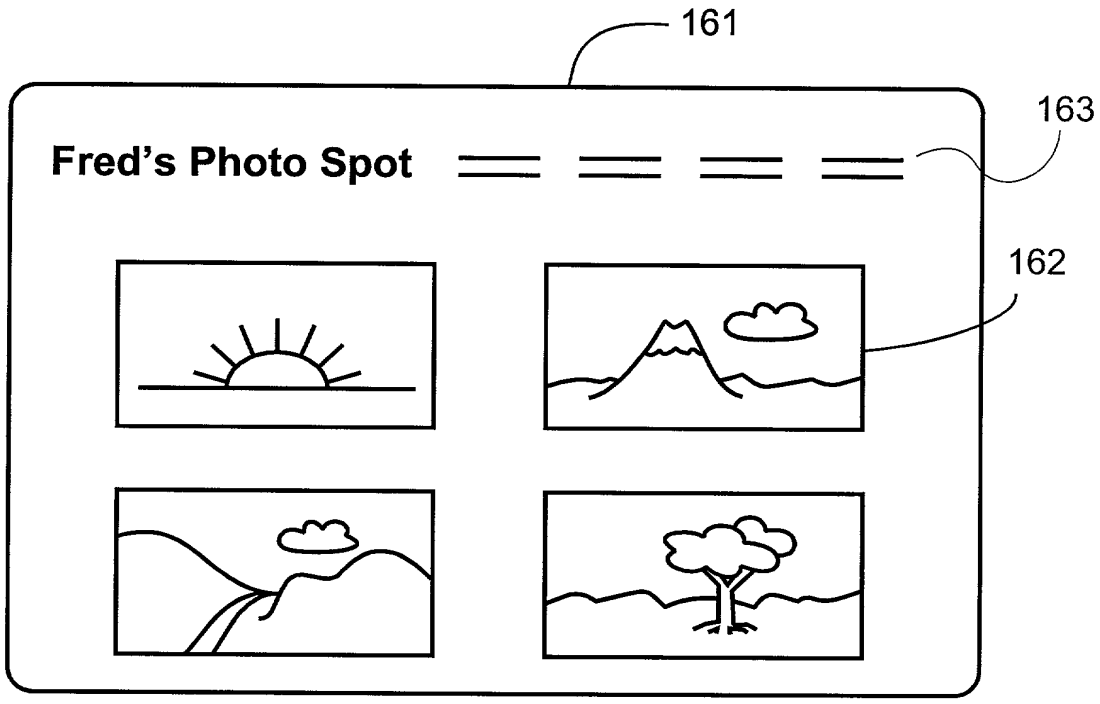


Fig. 13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Fred's Photo Spot
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Fig. 14

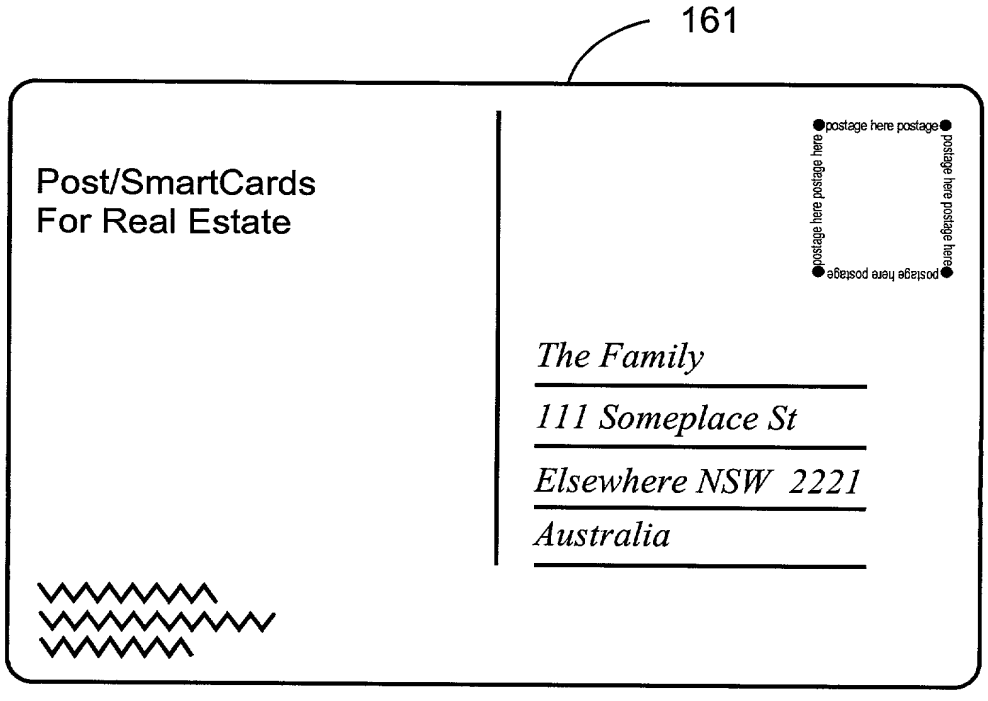
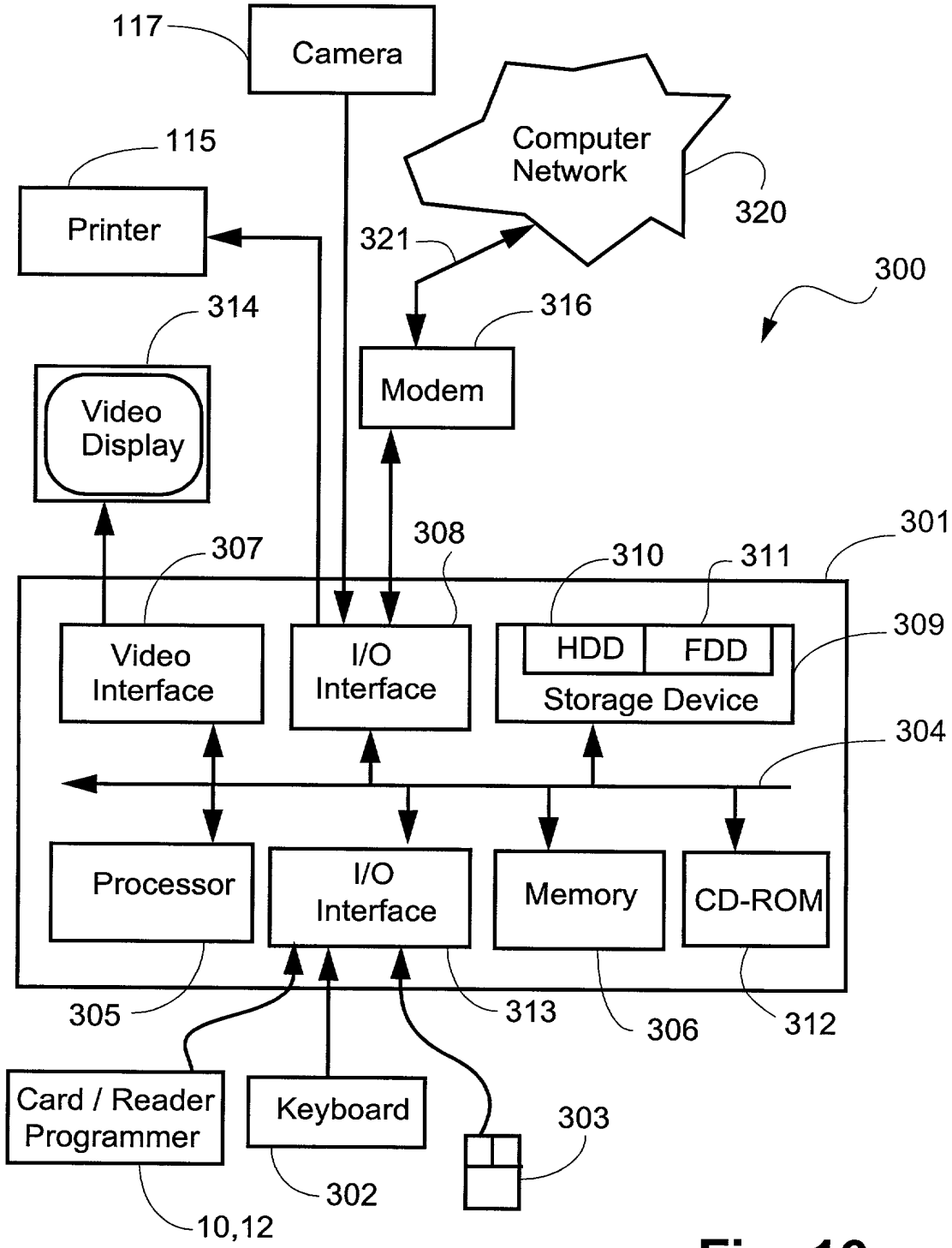

161
Post/SmartCards
For Real Estate
postage here postage here postage here postage here postage here postage here
The Family
111 Someplace St
Elsewhere NSW 2221
Australia

Fig. 15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Computer Network
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Video Display
Modem
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Video Interface
I/O Interface
HDD
FDD
Storage Device
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Processor
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CD-ROM
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Card / Reader Programmer
Keyboard
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Fig. 16

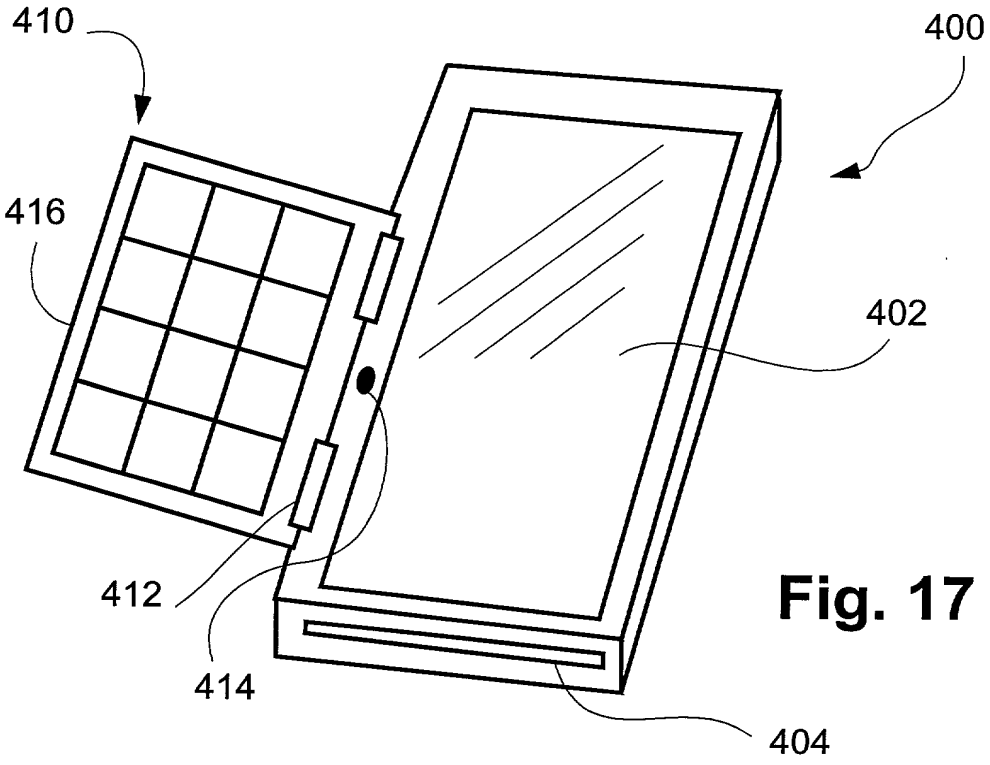

Fig. 17

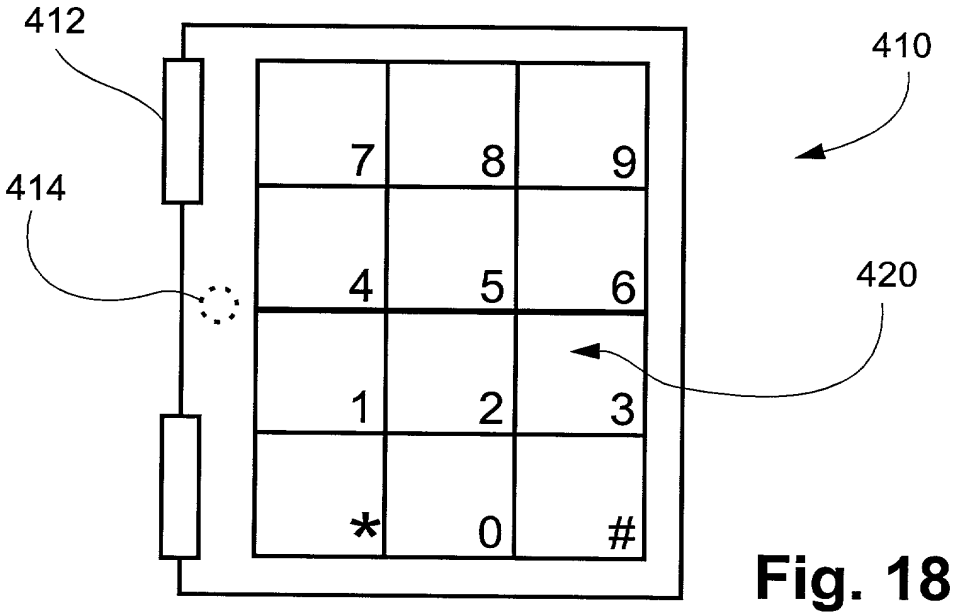

Fig. 18

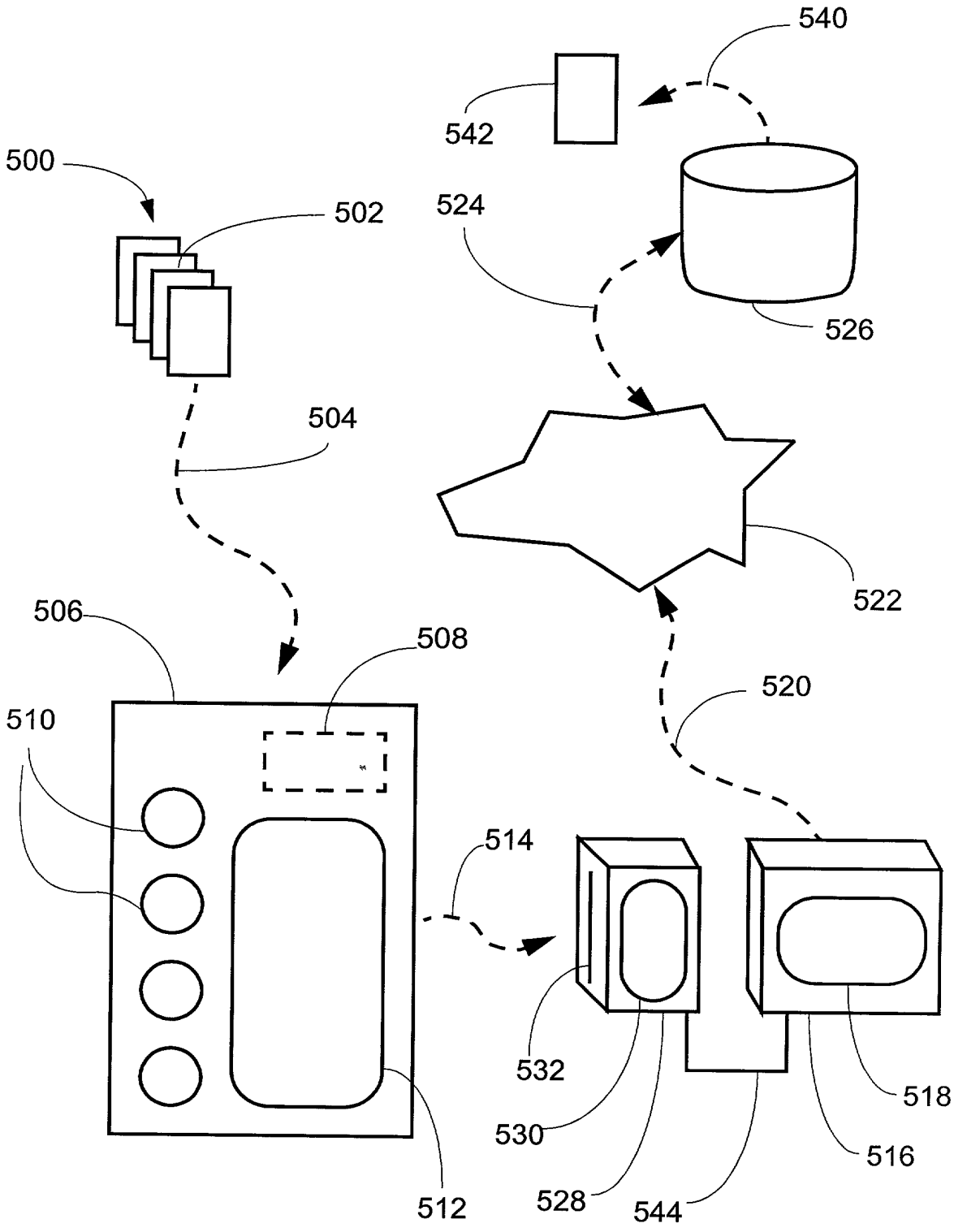
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Fig. 19

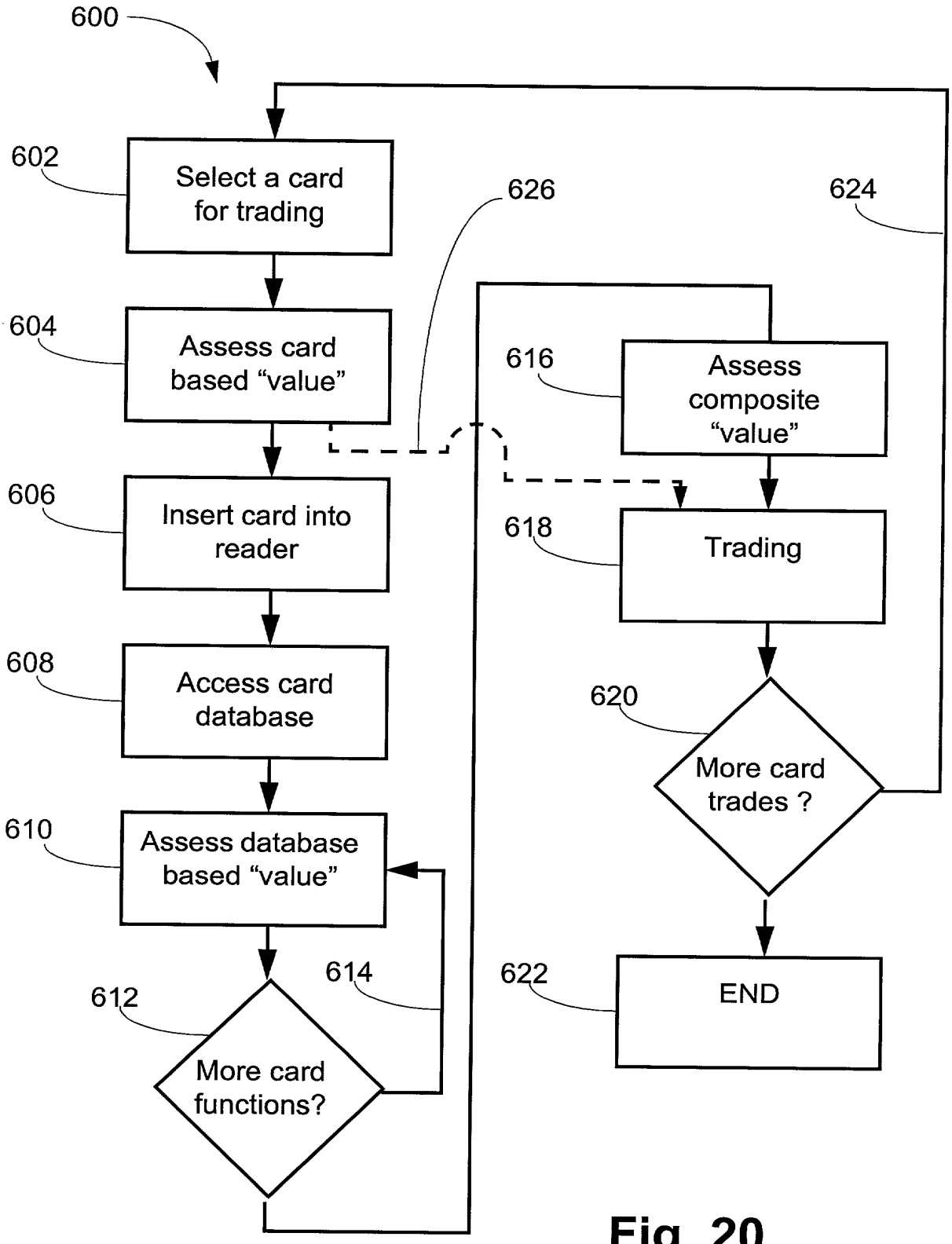
600
602
Select a card for trading
604
Assess card based "value"
606
Insert card into reader
608
Access card database
610
Assess database based "value"
612
More card functions?
614
626
624
616
Assess composite "value"
618
Trading
620
More card trades ?
622
END

Fig. 20

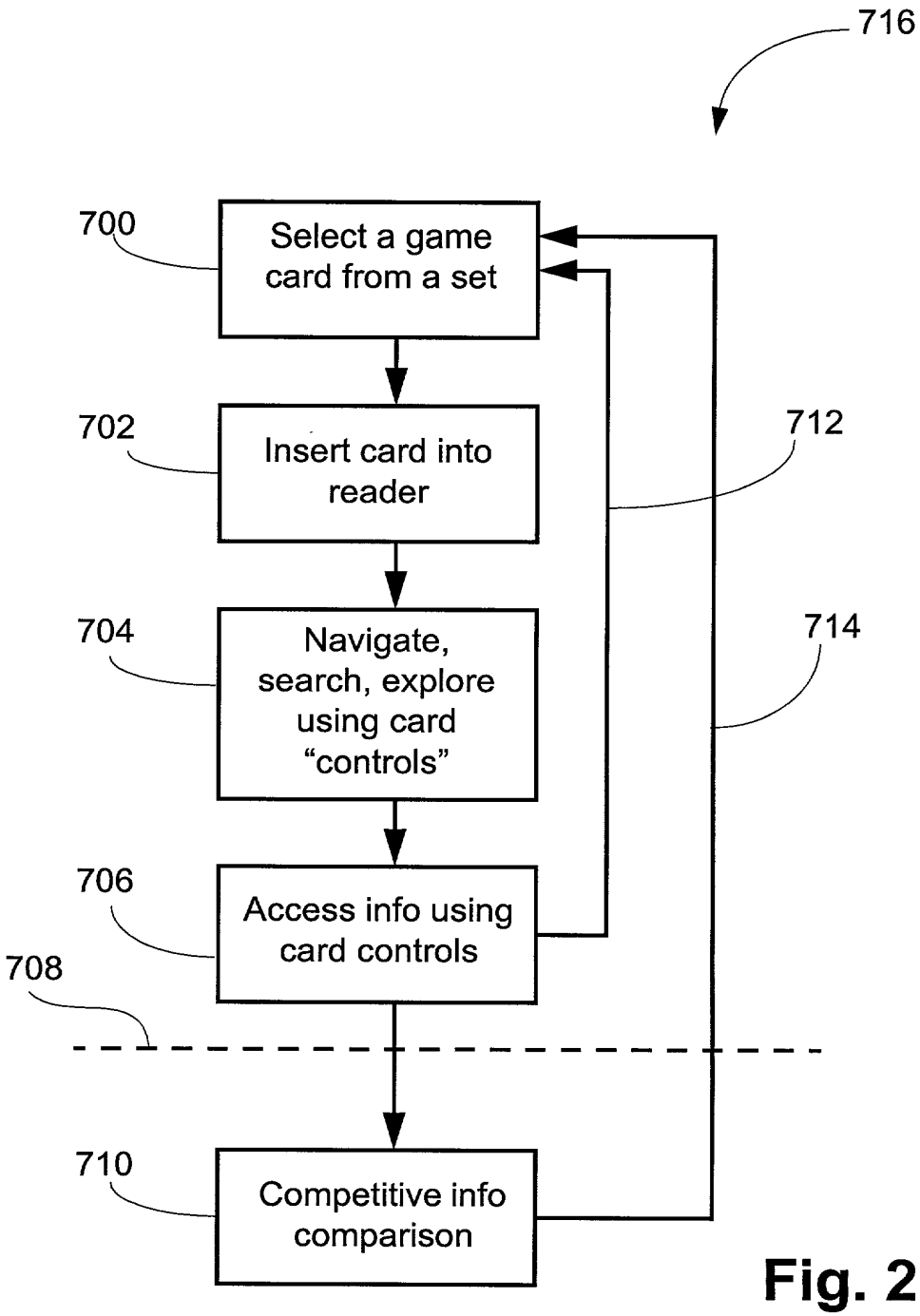
716
700
Select a game card from a set
702
Insert card into reader
712
704
Navigate, search, explore using card "controls"
714
706
Access info using card controls
708
710
Competitive info comparison

Fig. 21

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